Phrasal and Clausal Comparatives in Lithuanian

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Phrasal comparatives in Lithuanian show surprising island sensitivities. I account for these sensitivities by positing a reduced clause analysis of phrasal comparatives, and my analysis is informed by the semantics of modal comparatives in Lithuanian. In section 1 I introduce the phrasal/clausal distinction; in section 2 I canvass the three main syntactic accounts of phrasal comparatives; in section 3 I present the island sensitivities; in section 4 I account for the island sensitivities by making reference to the semantics of modal comparatives; in section 5, I summarize.

1 Phrasal and clausal comparatives in Lithuanian

Clausal comparatives are comparatives in which the complement of the standard marker (than in English) shows clausal syntax (1). They differ from phrasal comparatives, in which the complement of the standard marker shows phrasal syntax (2). I will refer to the standard marker and its complement as the “standard clause” to avoid confusion.

(1) Nino is taller than [Elena is]
(2) Nino is taller than [Elena]

In English, the distinction between phrasal and clausal comparatives is vexed (Hankamer, 1973; Lechner, 2001; Bhatt and Takahashi, 2007; Kennedy, 2007), but Lithuanian seemingly identifies the different comparatives through a morphological distinction in the standard marker. Lithuanian has both phrasal and clausal standard markers; the phrasal standard marker is už (3), and the clausal standard marker is negu (4).

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The phrasal marker *už* behaves like a preposition, which is compatible with most analyses of phrasal comparatives (Kennedy, 2007). First, *už* cannot take clausal complements. Second, *už* may only appear with a DP complement (6a) in the accusative case (6b).

Third, *už* licenses reflexives.

The clausal standard marker *negu* behaves very differently. For instance, *negu* may take a clausal complement (8a). The case of a DP complement to *negu* is governed by clause-internal syntax (8b), and *negu* does not license reflexives (8c).
In addition, only negu allows the complementizer kad to appear in its complement (9a); už does not (9b).

(9)  a. Petras galvoja, kad mėnulio didesnis, negu kad yra
    Peter thinks that moon larger than that it is
    ‘Peter thinks that the moon is larger than it is’

  b. Jonas aukštesnis už (*kad) Marija
     John taller than (*that) Mary.ACC
     ‘John is taller than Mary’

The following table summarizes the differences between the phrasal and clausal standard markers in Lithuanian.

<table>
<thead>
<tr>
<th></th>
<th>už</th>
<th>negu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disallows clausal complement?</td>
<td>✓</td>
<td>*</td>
</tr>
<tr>
<td>Case of DP complement determined by standard marker?</td>
<td>✓</td>
<td>*</td>
</tr>
<tr>
<td>Licenses reflexives?</td>
<td>✓</td>
<td>*</td>
</tr>
<tr>
<td>Disallows complementizer in complement?</td>
<td>✓</td>
<td>*</td>
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2 The main accounts of phrasal comparatives

While the main analyses of comparative constructions converge on the presence of a CP complement to the clausal standard marker, they diverge on the proper analysis of phrasal comparatives. First, the direct analysis, advanced by Kennedy (2007) and Hankamer (1973) among others, posits that the phrasal standard marker takes a DP complement (11).

(11) Sam plays guitar better [pp than [DP her]]
Evidence from the licensing of reflexives, case dependency on the head preposition, and morphosyntax (phrasal vs. clausal standard markers) supports the direct analysis for phrasal comparatives. Furthermore, the direct analysis seems to capture the structure of comparatives in languages without evidence of clausal comparatives, like Malagasy (Potsdam, 2010).

However, as Pancheva (2009) points out, the direct analysis cannot easily explain the unavailability of more-NP subject comparatives with the phrasal standard marker in certain Slavic languages. (12) a. ?*/

\[ \text{Poveč turisti posetixa Sofia ot Varna} \]

more tourists visited Sofia from Varna

\[ \text{‘More tourists visited Sofia than Varna’} \quad \text{BULGARIAN} \] (Pancheva, 2009, 3)

b. ?*/

\[ \text{Więcej uczniów zwiedziło Czechy od Słowacji} \]

more students visited Czech R. from Slovakia

\[ \text{‘More students visited the Czech Republic than Slovakia’} \quad \text{POLISH} \] (Pancheva, 2009, 3)

Pancheva notes that the direct analysis cannot accommodate the restriction on more-NP subjects without an ad hoc exception to either the extraposition of the than-PP or to Quantifier Raising. Lithuanian also participates in the restriction evident in (12).

(13) *Daugiau studentų lanko Chicago už Northwestern

more students attend Chicago than Northwestern

\[ \text{‘More students attend (the University of) Chicago than Northwestern’} \]

The second analysis treats phrasal comparatives as reduced clausal comparatives. According to this analysis, exemplified by Lechner (2001) and Merchant (2009), phrasal comparatives have undergone ellipsis and the obligatory Comparative Deletion operation (Bresnan, 1973). For instance, in an apparently phrasal comparative like (14), the standard clause is the product of ellipsis of the verb and Comparative Deletion of the gradable predicate (represented by angle brackets < >).

(14) Nino is taller [PP than [CP wh Elena <is d1-tall> ]]

The reduced analysis can explain certain restrictions on deletion and unexpected island sensitivities in phrasal comparatives, as in Greek (15).
Merchant’s analysis, for example, hinges on a prohibition against intermediate traces of island-violating movement.\(^2\)

\[\text{(15)}\]
\[
\begin{array}{l}
\text{*To oti o pritanis prokite na kalesi tin kafaristria ine}
\text{the that the dean is going to invite the cleaner is}
\text{perisoteruaksioperiergo apo tin Maria}
\text{more noteworthy than the Maria.ACC}
\end{array}
\]

‘That the dean is going to invite the cleaning lady is more noteworthy than that he is going to invite Maria’ (Merchant, 2009, 143)

Pancheva (2006) critiques Merchant’s proposal by claiming that it cannot easily account for two observations in Russian. First, Russian analytic comparatives cannot appear with phrasal standard markers (16a). Second, certain types of measure phrases in Russian are possible only with phrasal standard markers (16b).

\[\text{(16)}\]
\[
\begin{array}{l}
a. \text{Germann byl }\{\text{sil’nee, } \#\text{bolee sil’en}\} \text{ svoego}
\text{Germann was }\{\text{strong-er, more strong}\} \text{ own}
\text{protivnika}
\text{adversary,GEN}
\text{‘Germann was stronger than his adversary’} \text{ (Pancheva, 2006, 4)}
\end{array}
\]
\[
\begin{array}{l}
b. \text{Ivan rostom }\#\text{bol’še čem dva metra}
\text{Ivan in-height more what two meters}
\text{‘Ivan measures in height more than two meters’} \text{ (Pancheva, 2006, 6)}
\end{array}
\]

In order to remediate these defects in the reduced clause analysis, Pancheva proposes a small clause analysis of phrasal comparatives (Pancheva, 2006, 2009). Under this analysis, the complement of the standard marker is a small clause with an anaphoric predicate (17a). After the degree morpheme (-er) QRs, the than-PP is merged as its complement (Bhatt and Pancheva, 2004). The degree predicate left by the QR of -er, \(d_{i\text{-}tall}\), is then copied to the small clause complement of than (17b). The subject of the small clause is ECM-ed by the standard, and the small clause is obligatorily elided (17c).

\[\text{\(2\) According to Merchant, these traces are technically PF-uninterpretable} \text{ (Merchant, 2009, 146). See Merchant (2009) for more details.}\]
Pancheva’s analysis successfully explains the restriction on more-NP subject phrasal comparatives discussed above. These comparatives are ruled out by the constraint on extraction from subjects, since the degree abstraction operator wh₁ is extracted from a subject (the illicit move is represented by *wh₁).³

Importantly, however, the small clause analysis does not possess greater explanatory power than the reduced clause analysis. While Pancheva motivated the small clause analysis, in part, by a desire to maintain semantic uniformity across all uses of -er, the ease with which clausal -er is type-shifted to phrasal -er may alleviate this concern (see Kennedy (1997)). Second, the small clause analysis cannot account for Merchant’s observations in Greek, while the reduced clause analysis may account for Pancheva’s more-NP subject comparative restriction (as the result of an unelided island-violating trace). Relatedly, Pancheva predicts that unaccusative more-NP subjects should be permitted in phrasal comparatives (Pancheva, 2009, 12), but, at least in Lithuanian, this prediction is not borne out.

³ Pancheva offers two explanations for the degraded nature of more-NP subject phrasal comparatives. One involves a locality constraint, and one involves extraction out of subjects. However, Pancheva explains the range of unacceptability of these comparatives by analogy to the range of unacceptability of extraction from subjects. Thus, the prohibition on extraction from subjects seems the more plausible explanation of Pancheva’s phenomena.
Third, it is not clear that Pancheva accounts for the analytic/synthetic comparative contrast. Pancheva’s explanation of the unacceptability of analytic comparatives with phrasal standard markers (16a) relies crucially on the fact that Russian analytic comparatives (*bolee sil’en ‘more strong’) have entailments to the positive form (*sil’nij ‘strong’) (Pancheva, 2006, 21). In Lithuanian, however, analytic comparatives are unacceptable with phrasal standards—as in Russian—but the analytic comparative does not have an entailment to the positive form (20).

Similarly, the small clause account of measure phrase comparatives (16b), which I will not rehearse here, does not explain why measure phrases are ungrammatical with phrasal standard markers in both Polish and Lithuanian.

Finally, the small clause analysis cannot account for certain island sensitivities in Lithuanian phrasal comparatives. The analysis of these phenomena is the subject of the following section.

### 3 Accounting for island sensitivities in Lithuanian phrasal comparatives

Surprisingly, Lithuanian phrasal comparatives are sensitive to islands, while Lithuanian clausal comparatives are not. In this respect, Lithuanian is similar to Greek (Merchant, 2009). The sentence in (22a) demonstrates the phrasal comparative’s sensitivity to relative clause islands. The corresponding clausal comparative is not sensitive to this island (22b).

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4 Similar data obtain for other islands, like temporal adjuncts, but I omit them in the interest of space.
That a movement analysis is appropriate for the reduced clausal comparatives in (22b) is evident from preposition stranding. Since Lithuanian lacks preposition stranding, prepositional pied-piping is obligatory for remnants that are objects of prepositions. Since evidence from preposition stranding suggests a movement analysis for reduced clausal comparatives, and since evidence from island sensitivities suggests a movement analysis for phrasal comparatives, the challenge is to explain the asymmetry between the sentences in (22a) and (22b).

Merchant (2009), relying on similar data from Greek, proposes an analysis in which sluicing repairs island violations in reduced clausal comparatives but not in phrasal comparatives. As briefly explained above, Merchant’s account relies on the ability of sluicing to eliminate island-violating traces of wh-movement. For example, the island-violating trace *t₁*’ is elided in the sluiced example (24a) but not in the VP-ellipsis example (24b) (see Merchant (2005) for an elaboration of the repair operation).
That sluicing repairs island violations in general in Lithuanian is shown by (25).

(25) Benas nori pasamdyti 
Ben wants to hire someone who speaks 
kalba Balkanų kalba, but I don’t remember which 
kuria1 neprisimenu kuria1 speechINST wants 
to hire someone who speaks 

‘Ben wants to hire someone who speaks a Balkan language, but I don’t remember which’

Ellipsis of TP repairs the violation that occurs when the wh-word kuria is extracted from a relative clause. Similarly, in clausal comparatives like (22b), sluicing repairs the island violation caused by movement of the remnant.\(^5\)

The structure in (26b) finds further support in the possibility of an overt complementizer following negu (see 9a). In contrast, given the data in (22a), sluicing must not repair similar island violations in phrasal comparatives. Thus, an intermediate trace of island-violating movement must remain unelided. Merchant’s account suggests that further movement of the remnant into SpecPP creates the unelided trace (and also involves movement of the prepositional head už into a pP shell).

\(^5\)This example lacks an island-violating trace (though there is movement out of an island). The analysis I eventually propose ensures that such a trace will not be possible in clausal comparatives.
On this view, the local relation between the preposition \textit{už} and the remnant is responsible for phrasal-like effects such as case marking and the licensing of reflexives (see 6b and 7, respectively). However, in the following section I will provide a semantic argument for a different explanation of the unelided trace.

4 Arguments for negation in the semantics of the comparative

Lithuanian has one possibility modal \textit{galeti} and one necessity modal \textit{tureti}. In comparatives involving a modal verb in the standard clause, necessity modals consistently receive a greater-than-minimum interpretation ($>\text{-min}$) (28a) and possibility modals consistently receive a greater-than-maximum interpretation ($>\text{-max}$) (28b).

(27) a. (=22a) *Daugiau žmonių kas gyvena valstijoje, kurią valdo Obama, už Medvedeva

b. $[\text{p} \text{už [pp Medvedev}_1 [ t_{u2} [ \text{cp [fp *}_1 t'_1 <[\text{tp gyvena valstijoje, kurią valdo t}_1 ]> ] ] ] ]$

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(28) a. Pilotas auksščesnis, negu kad turī butī

Pilot taller than that must to be

‘The pilot is taller than he needs to be’

#‘The pilot is taller than the maximum height allowed’

b. Pilotas auksščesnis, negu kad gali butī

Pilot taller than that may to be

‘The pilot is taller than he is allowed to be’

#‘The pilot is taller than the minimum height (and perhaps under the maximum height)’

For example, suppose pilots must be between 5’ and 6’ in order to fit in a cockpit. As the glosses suggest, the necessity modal comparative (28a) has an interpretation in which the pilot’s height is greater 5’, but not (necessarily) greater than 6’. In contrast, the possibility modal comparative has only the interpretation in which the pilot’s height exceeds the maximum allowable height for pilots, 6’.

Schwarzschild (2008) provides a formal semantics of comparison, drawing on an A-not-A approach originating in Seuren (1973) and others, that helps capture these readings and explains the island sensitivity of phrasal comparatives. Under Schwarzschild’s theory,
a sentence like (29a) has an interpretation in (29b). That is, the intersection of Mary’s height with the set of degrees greater than John’s height is nonempty.

(29)  
   a. Mary is taller than John
   
   $\{d \mid \text{HEIGHT}(\text{mary}) > d\} \cap \{d' \mid \neg\text{HEIGHT}(\text{john}) > d'\} \neq \emptyset$

Of particular importance for the present account is the denotation of the than-clause. On Schwarzschild’s view, the denotation must be something like (30).

(30) $\llbracket \text{than John is } d\text{-tall} \rrbracket = \lambda d[\neg\text{HEIGHT}(j) > d]$

This departs from a standard account (as in von Stechow (1984)) in two ways. First, the than-clause denotes a predicate of degrees rather than a degree description. Second, the denotation of the than-clause involves (some kind of) negation.

The presence of negation allows us to account for the >-max and >-min readings of modal comparatives. Under a simple sentential operator implementation of modal verbs (31a), the denotation of the necessity modal standard clause is (31b) (where the degree abstraction $\lambda d$ is accomplished by wh-movement (Kennedy, 2007)).

(31)  
   a. $\llbracket \text{turi} \rrbracket = \lambda p_w \forall w[ACC_{\ominus}(w) \rightarrow p(w)]$
   
   b. $[\lambda d \rightarrow [\text{turi} [\text{HEIGHT(pilot)} > d] \llbracket \rightarrow ] ]$

The denotation in (31b) represents the set of degrees $d$ such that the pilot is no taller than $d$ in some accessible world—in other words, the set of degrees $d$ such that the pilot’s height is less than or equal to $d$ in at least one accessible world. But this is the set of degrees beginning with the minimum accessible height. Therefore, a sentence like (28a) receives an interpretation as in (32), which can be paraphrased as follows: the set of degrees representing the pilot’s height and the set of degrees beginning with the minimum accessible height have a non-empty intersection. The pilot is taller than the minimum allowable height; this is the >-min reading.

(32) $\{d \mid \text{HEIGHT(pilot)} > d\} \cap$

$\{d' \mid \neg\forall w[ACC_{\ominus}(w) \rightarrow \llbracket \text{HEIGHT}_{\ominus}(\text{pilot}) > d'\rrbracket]\} \neq \emptyset$

Using a similar chain of reasoning, the presence of negation in the standard clause—combined with existential modal force—accounts for the >-max reading.
The presence of negation in the standard clause helps account for a wide range of other phenomena, as well. In English, a negation-based semantics for the standard clause can account for the >-max and >-min readings of universal modals like *have to and should, respectively, in comparatives (Alrenga and Kennedy, 2008). In addition, the presence of negation explains the licensing of Negative Polarity Items (and the ungrammaticality of Positive Polarity Items) in the standard clause (Matushansky, 2009; Seuren, 1973) (but see (Giannakidou and Yoon, to appear)).

Moreover, negation helps explain the impossibility of other negative elements in the standard clause.6

(33)  
\begin{align*}
\text{a. Jonas nume\text{\textcaret} } & \text{t\text{\textcaret} } \text{kamul\text{\textcaret} } \text{toliau } \text{negu } \text{jok\text{\textcaret} } \\
& \text{John threw that ball further than any} \\
& \text{‘John threw that ball further than any other’}
\end{align*}

\begin{align*}
\text{b. } & \text{?Tu turi daugiau } \text{paramos negu jus jau } \text{turi} \\
& \text{you have more support than he already has} \\
& \text{‘You have more support than he already has’}
\end{align*}

Historical and crosslinguistic evidence further support the negation-based analysis. Etymologically, the clausal standard marker negu is ne-‘NEG’ + -gu, an enclitic attached to various conjunctions like jeigu ‘if, in case’ (Bender, 1921).7 Crosslinguistically, overt negation (often called expletive negation) appears in the standard clause in French, Italian, Catalan, Arabic, and Mandinka, among others.

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6 A reviewer points out that an utterance like *John ran faster than no boy is felicitous, despite the presence (on this account) of two negative elements in the standard clause. I agree, though examples like *John is heavier than Bill is not are not grammatical. I suspect that differences between phrasal than and clausal than might account for this difference in grammaticality, but I cannot explore this solution here.

7 Pancheva speculates that the Polish and Serbo-Croation clausal standard markers also incorporate negation (Pancheva, 2006, 9).
Finally, a negation-based semantics helps explain the island sensitivities of phrasal, but not clausal, comparatives in Lithuanian. Notably, only the Lithuanian clausal standard marker appears to incorporate negation: the clausal standard marker licenses NPIs, disallows PPIs, disallows overt negative elements, and interacts with modal quantifiers. Thus, the clausal standard marker must select a negative element in its complement, high enough to take scope over modals in the standard clause and high enough to license NPIs. However, this negative element does not have the semantic force of overt negation; if it did, then we would expect scopal interactions with quantificational DPs, which we do not see.

Rather, this negative element is scalar negation (Matushansky, 2009). Scalar negation belongs to the class of scope-taking entities that, like degree quantifiers, interact with quantifiers over worlds but not with quantificational DPs (see also Kennedy’s Generalization (Heim, 2001)). The nature of this class of entities is unclear, but I assume that scalar negation does not interact with quantificational DPs for the same reason that degree quantifiers do not.

Scalar negation prevents island violations in Lithuanian clausal comparatives by preventing the remnant from moving to SpecPP. Scalar negation occupies the position of SpecPP, and by preventing the remnant from moving to SpecPP, scalar negation prevents the occurrence of an unelided island-violating trace. Therefore, the tree in (26b) is more fully represented as (37).

(35) a. Jean est plus grand que je ne pensais
   Jean is more tall than I NEG thought
   ‘Jean is taller than I thought’

b. Giovanni è più alto che non pensassi
   Giovanni is more tall than NEG thought
   ‘Giovanni is taller than I thought’

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(36) Morkus aukštesnis negu kai kurius berniukus
   Mark taller than as some boy
   ‘Mark is taller than some boy’
   # ‘Mark is taller than no boy’

(37) [FP [ne-] [gu [CP C [FP [DP1 Medvedev] <[TP gyvena valstijoje, kuriq valdo î1] > ] ] ] ]
While the DP cannot move into the SpecPP position in clausal comparatives, it can (and usually does) in phrasal comparatives. However, if the remnant’s extraction violated an island, the remnant will leave an unelided island-violating trace in SpecFP, precipitating a crash at PF.

By involving movement into SpecPP in both cases, this account unifies phrasal and clausal comparatives while providing for a principled explanation of their different behaviors that turns on their different standard markers. Moreover, movement into SpecPP in the licit cases will provide the locality effects that give rise to “phrasal” phenomena (Merchant, 2009).

Finally, the semantics of comparison I have provided is not uniform. On the current theory, clausal comparatives involve scalar negation but phrasal comparatives do not. On one hand, this type of non-uniformity over comparative constructions is undesirable. However, the semantics of phrasal and clausal comparatives will most likely differ anyway, since clausal comparatives have standard clauses that denote degree descriptions (type d) while phrasal comparatives have standard clauses that denote individuals (type e). Space restrictions prevent me from exploring the semantics of phrasal comparatives on the present view, but I do not take this non-uniformity to pose an insuperable challenge (see Pancheva (2006); Kennedy (1997)).

5 Summary

Lithuanian phrasal comparatives exhibit unexpected island sensitivities. In particular, when the standard is compared to an element of the matrix within an island, the phrasal comparative is significantly degraded. Of the three analyses proposed to account for the phrasal/clausal distinction, the reduced clause analysis does best at explaining these sensitivities. Combining the reduced clause analysis with observations from modal comparatives provides a way to unify the underlying syntax of phrasal and clausal comparatives. Clausal comparatives involve scalar negation, which interacts with non-quantificational-DP scope-taking operators. In addition, scalar negation prevents the remnant in clausal comparatives from moving into the immediate domain of the than preposition. Sluicing
repairs the island-violating movement in clausal comparatives. In contrast, phrasal comparatives do not involve scalar negation, but they do involve clausal syntax. The remnant is not prevented from moving into the immediate domain of the than preposition. Thus, in cases in which the remnant has been extracted in violation of an island constraint, the remnant leaves a trace above TP. Sluicing cannot eliminate this trace, and the sentence is uninterpretable at PF.

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