

Experimental Evidence for the Syntax of Phrasal Comparatives in Polish

Roumyana Pancheva and Barbara Tomaszewicz, USC

Comparatives can be ‘clausal’ (CC) (*than she is*) or ‘phrasal’ (PC) (*than her*). We offer evidence from three acceptability-rating studies in Polish that *than* has an elided small clause complement in PCs.

1. Analyses of PCs. The *reduction analysis* (RA) holds that PCs and CCs differ only in the size of ellipsis in the *than*-clause and in the mechanism of case-marking the remnant DP ([2], [15], [16], [17], [7]), see (1). As in CCs, a *wh*-operator moves to Spec, CP of the *than*-clause, creating a degree predicate, which *more* takes as an argument. Under the *direct analysis* (DA) *than* has a DP complement ([8], [14]). The DA needs two *mores* as in PCs *more* combines with an individual, while in CCs it has a degree predicate argument ([9],[14],[1]). The SCA posits that *than* has a small clause complement, whose subject it ECMs (e.g., [19], (2)). There is *wh*-movement in the *than* clause, as in CCs, but no C to attract the *wh*-operator. The movement is just for the creation of a degree predicate, as in [10]. In the absence of a *wh*-probe, the *wh*-operator moves to the edge of the predicate, here a *vP*. The small clause predicate is obligatorily elided. The SCA captures the syntactic behavior of the *than* PP as well as the DA does, while preserving the lexical semantic parsimony of the RA, as it relies on the same *more*.

2. Distinguishing between the Theories: The SCA predicts that when the *more*-NP originates in Spec, *vP*, PCs will be degraded. Consider (3) as a PC (in actuality, the English sentence must be a CC, given that neither (3a) nor (3b) is acceptable). Movement of the subject out of Spec, *vP* targeting *vP*, as in (3a), is precluded in Bare Phrase Structure (BPS [3]) as too local. Movement of X is defined as the ordered set $\langle \{X, A\}, \{X, B\} \rangle$ where B and A are X’s sisters before and after movement. The chain needed for (3a) is $\langle \{wh\text{-NP}, vP\}, \{wh\text{-NP}, vP\} \rangle$ i.e., it is non-distinguishable from a trivial, non-movement chain. The *wh*-movement needed for (3a) cannot even be stated non-vacuously, so (3a) is categorically precluded. The alternative in (3b) involves sub-extraction of the degree *wh*-word from the subject. But subjects are islands ([11], [3], [4], [5], [6]). Thus, such PCs should show the gradient acceptability associated with subject-island violations. [12] offers experimental evidence that extraction from Spec, *vP* subjects is not categorically precluded (rated on average 3.6 on a 1-7 scale) and that it substantially varies among speakers, with means ranging 2-5.5. SCA further predicts that degree dependencies involving unaccusative subjects should be permitted in PCs, since these subjects do not originate in Spec, *vP*.

Neither the RA nor the DA makes these predictions, which stem from locality and island constraints on *wh*-movement. The DA posits no *wh*-movement in PCs. Under the RA, *wh*-movement is to Spec, CP, i.e., not too local, so the whole subject *wh*-phrase can move, avoiding a sub-extraction violation.

3. Testing the Predictions: Three Off-line Acceptability-Judgment Experiments in Polish. Because the predictions of the SCA involve gradient unacceptability, quantitative data are needed to test them. Polish distinguishes CCs and PCs by the type of *than* (*niż* and *od* ‘from’, respectively), and it allows the *niż*-clause to be elided up to a single remnant, in parallel to PCs (e.g., [13]). Experiment 1 compared CCs and PCs with *more*-NP objects (4a,b) and subjects (4c,d) in transitive predicates. Experiment 2 added 2 more adverbial conditions (4e,f). Sentences were judged on a 7-point rating scale. The SCA predicts an interaction, with (4d) degraded relative to the other conditions. 4 out of 39 subjects in Exp.1, and 4 out of 30 subjects in Exp.2 show an unexpected pattern of (4c) judged worse than (4d) by >1 point. For the remaining subjects, in both experiments, repeated measures ANOVAs yield significant main effects of type of *than* (*niż* vs. *od*) and position of *more* (subject vs. object (vs. adverb), and, most importantly, significant interactions (5). This suggests that (4d)’s lowest mean is not just a cumulative effect of the two main factors, but an additional effect, which we attribute to the island violation. Underscoring this point, the main effects remain significant when the subject conditions are not included in an ANOVA but there is no interaction (Exp. 2: $F(1,25)=0.77$, $p=0.39$); i.e., the lower mean of (4f) relative to (4a,b,e) is entirely cumulative. The results support the SCA over its alternatives. Experiment 3 compared CCs and PCs with unaccusative (6a,b) and unergative (6c,d) subjects. Again, the SCA predicts an interaction, with (6d) having the lowest ratings. A repeated measures ANOVA on 51 subjects revealed a significant effect of *than* (*niż* vs. *od*) and, importantly, a *than* × verb type (unaccusative vs. unergative) interaction (see (7)).

4. Consequences. The results allow for economy in the functional lexicon: only one *more* is needed. The generalization that *vP*-deletion does not repair island violations ([18]) receives support. Finally, the results illuminate the role of (anti-)locality in *wh*-movement and provide support for a BPS-model of syntax.

- (1) He visited more cities than [_{CP} *wh*₂ she₃ [_{TP} ~~x₃ visited d₂ many cities~~]] (RA)
- (2) He visited more cities than [_{PredP} she₃ [_{TP} ~~*wh*₂ [_{TP} ~~x₃ visit d₂ many cities~~]]]] (SCA)~~
- (3) More tourists visited London than Paris
- a. * ... than [_{PredP} Paris₃ [_{TP} ~~*wh* many tourists₂ [_{TP} ~~x₂ visit x₃~~]]]] (SCA)~~
- b. ??/* ... than [_{PredP} Paris₃ [_{TP} ~~*wh*₂ [_{TP} ~~d₂ many tourists visit x₃~~]]]] (SCA)~~
- (4) a. Zespół Impresja zatańczył więcej latynoskich tańców niż zespół Tęcza
- b. Zespół Impresja zatańczył więcej latynoskich tańców od zespołu Tęcza.
group Impresia danced more Latin dances than group Tęcza
- c. Więcej par zatańczyło tango niż poloneza.
- d. Więcej par zatańczyło tango od poloneza.
more couples danced tango than polonaise
- e. Wszystkie pary zatańczyły tango lepiej niż poloneza.
- f. Wszystkie pary zatańczyły tango lepiej od poloneza.
all couples danced tango better than polonaise

(5)	object <i>niż</i> (4a)	object <i>od</i> (4b)	subject <i>niż</i> (4c)	subject <i>od</i> (4d)	adverb <i>niż</i> (4e)	adverb <i>od</i> (4f)	<i>than</i> × position of <i>more</i> interaction
Exp.1	5.78	5.18	5.48	4.38	na	na	F(1,34) = 6.26, p = 0.017
Exp.2	6.34	5.38	5.53	3.93	5.73	5.09	F(2,25) = 3.99, p = 0.025

- (6) a. W tym sezonie wyrosło więcej dorodnych truskawek niż w ubiegłym sezonie
- b. W tym sezonie wyrosło więcej dorodnych truskawek od ubiegłego sezonu
in this season grew more ripe strawberries than (in) last season
- c. W tym sezonie spało pod namiotami więcej turystów niż w zeszłym sezonie
- d. W tym sezonie spało pod namiotami więcej turystów od zeszłego sezonu
in this season slept under tents more tourists than (in) last season

(7)	unacc. subj <i>niż</i> (6a)	unacc. subj <i>od</i> (6b)	unerg. subj <i>niż</i> (6c)	unerg. subj <i>od</i> (6d)	<i>than</i> × verb type interaction
Exp.3	5.04	4.31	5.08	3.70	F(1,50) = 5.65, p = 0.021

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