

Information Structure and Clausal Comparatives in Czech and Polish*

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1. Introduction

The phenomenon of Comparative Deletion, as attested in English, has been known in the literature on comparatives since Bresnan (1973); descriptively, it refers to the obligatory elimination of a non-contrastive AP (or NP) from the comparative subclause.¹ This is illustrated in (1) for predicative comparatives:²

- (1) a. Mary is taller than Charles is **tall**.
b. *Mary is taller than Charles is **tall**.
c. The desk is longer than the office is **wide**.

As demonstrated by (1a) and (1b), a non-contrastive AP such as *tall* has to be deleted; however, if the AP is contrastive, as *wide* in (1c), it is licensed to appear.³ Although the information structural properties of the AP seem to be deci-

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¹ The comparative subclause refers to the subordinate clause headed by the complementiser *than* (and its counterparts, e.g. *než* in Czech or *niż* in Polish). Throughout this essay, I will restrict myself to the investigation of comparatives expressing inequality, hence the term comparative subclause will always refer to *than*-clauses and not to *as*-clauses.

² Traditionally, as in Bresnan (1973), the pattern given in (1a) is referred to as “Comparative Deletion”, while the one in (1c) is called “Comparative Subdeletion”. However, as will be shown in section 2, the notion of Comparative Subdeletion is completely unnecessary, since both types of constructions can be analysed in the same way, and the fact that they differ in their final, overt outcome is the result of more general requirements that are not specific to the particular constructions in any way. The original idea behind the distinction was that in predicative comparatives like (1a), Comparative Deletion eliminated both the gradable adjective (here: *tall*) and the degree operator (usually denoted as *x*, in (1a) specifying the degree to which Charles is tall); by contrast, in Comparative Subdeletion constructions only the degree operator is eliminated but not the adjective (e.g. in (1c) *wide* is not deleted). However, the degree operator in English is generally taken to be zero anyway, and hence the idea that this zero operator should be deleted is fundamentally flawed. Given this, I will not use the term “subdeletion” in the present paper either.

³ Note that contrastiveness here refers to logical contrast (hence a phonological contrast between e.g. *good* and *better* is not considered here). This also involves that the two gradable adjectives in question have to be placed on different scales (which should be comparable alongside some dimension); in other words, antonyms are not contrastive with respect to their degree specification because they express different degrees or degree ranges of the same scale. Hence (i) is ruled out:

(i) # Mary is taller than Charles is short.

The reason behind this is that both *tall* and *short* express a certain degree of tallness (height) and *short* denotes the lower range of the scale associated with tallness. This is not the case with *long* and *wide* in (1c), which express a degree of length and width, respectively.

sive in whether the AP can be overt, the pattern is far from being universal; for instance, Czech disallows both constructions, as shown in (2):

- (2) a. *Marie je vyšší, než je vysoký Karel. (Czech)
 Mary is taller than is tall Charles
 ‘Mary is taller than Charles.’
- b. Ten stůl je delší, než je ta kancelář široká.
 that desk is longer than is that office wide
 ‘The desk is longer than the office is wide.’

The same is true for Polish (with slight variation in the acceptability of (3b) among individual speakers):

- (3) a. *Maria jest wyższa niż Karol jest wysoki. (Polish)
 Mary is taller than Charles is tall
 ‘Mary is taller than Charles.’
- b. *^{/???} Stół jest dłuższy niż biuro jest szerokie.
 desk is longer than office is wide
 ‘The desk is longer than the office is wide.’

While the ungrammaticality of (2a) and (3a) is expected on the basis of the English pattern, the question arises why Czech and Polish lack predicative sub-comparatives in the English way, that is, why (2b) and (3b) are ungrammatical. I am going to take the analysis given by Bacskai-Atkari (2014) for Comparative Deletion, who argues that Comparative Deletion patterns such as (1)–(3) arise when a phonologically zero operator takes a visible lexical XP to a left-peripheral operator position, which violates an overt requirement on left-peripheral elements. This suggests that there are two key factors responsible for the realisation of the quantified expression in the comparative subclause: the overt requirement and the extractability of the operator. In the present paper, I am going to show that a third factor must also be considered: the realisation of the lower copy is dependent on more general properties of movement chains, which results in a difference between the English pattern exemplified in (1) and the Czech/Polish pattern illustrated in (2) and (3).

2. Comparative Deletion

First, let me briefly explain the phenomenon underlying Comparative Deletion in English, adopting the analysis given in Bacskai-Atkari (2014). As is known (see Chomsky 1977, Kennedy & Merchant 2000, Kennedy 2002), the quantified expression in the comparative subclause undergoes operator movement. This

results in two copies: the higher copy in a [Spec,CP] position, and the lower copy in the base position. In Standard English, the comparative operator is zero (indicated as *x* in the examples):

- (4) a. Mary is taller than [**x-tall**] Charles is [**x-tall**].
 b. The desk is longer than [**x-wide**] the office is [**x-wide**].

As far as the higher copy is concerned, Bacskai-Atkari (2014: 92–124) shows that there is an overtness requirement on left-peripheral elements, and a lexical AP (or NP) is licensed to appear in an operator position such as [Spec,CP] if the operator itself is overt.⁴ Since the operator in (4) is zero (*x*) and it cannot move to the [Spec,CP] position independently of the rest of the QP, it follows that the higher copies of the QPs in (4) have to be deleted. The lower copy of the movement chain is realised only if it is contrastive (see Bacskai-Atkari 2012: 9). Generally, this is an available option if the higher copy cannot be pronounced for some reason (cf. Bošković and Nunes 2007: 48), otherwise lower copies are regularly deleted (see Bobaljik 2002; Chomsky 2008; Bošković and Nunes 2007: 44–48). The final strings are shown in (5) below:⁵

- (5) a. Mary is taller than [~~**x-tall**~~] Charles is [~~**x-tall**~~].
 b. The desk is longer than [~~**x-wide**~~] the office is [**x-wide**].

⁴ As argued for by Bacskai-Atkari (2014: 154–164), the overtness requirement is a principle that is far more general than affecting merely comparative subclauses and/or the CP domain: it is also valid in the functional DP domain, as will be illustrated in section 5 of this paper, and it can also be observed in certain relative clauses cross-linguistically. Regarding the CP-domain, it holds for projections that are associated with clause-typing, and it essentially rules out the presence of overt lexical material in specifiers of clause-typing projections without an overt operator associated with clause-typing. Hence it can be understood as a prohibition against lexical XPs without an overt operator, and not as a ban on non-overt operators in general, which would of course be false to assume. Depending on whether the operator is overt and whether there is a lexical XP, there are altogether four logical possibilities for comparative subclauses; these are schematically represented below (“HOW” used as an abstract denotation for an overt operator, “Ø” referring to a zero operator, and *tall* exemplifying a lexical XP):

- (i) HOW tall
 (ii) HOW
 (iii) *Ø tall
 (iv) Ø

As can be seen, the overtness requirement is violated only by (iii), and hence this is the only configuration that is ruled out by this requirement. Since the aim of my paper is not to present (further) arguments in favour of the overtness requirement, but rather to show that there are requirements that target the lower copy of the quantified expression, I do not wish to elaborate more on this issue here.

⁵ Note that *x-tall* can be elided in (5a) because it is recoverable from *taller* in the matrix clause, while the same does not hold between *x-wide* and *longer* in (5b). The comparative operator itself does not have to be overt, as shown by the grammaticality of (5b) as well: this operator is recoverable from the degree head (*-er*) in the matrix clause, since the degree variable (the operator) is bound by the degree head in the matrix clause. The overtness of the operator matters insofar as the necessity of deleting the lexical AP in [Spec,CP] is concerned; logical identity, on the other hand, has to hold between the two APs only: this condition is met in (5a), where *tall* and *tall* mutually entail each other, while in (5b) the APs *long* and *wide* do not entail each other (see Merchant 2001 on the requirement of mutual entailment in ellipsis in general).

The reason why the entire QP (including the AP) undergoes movement is that the operator cannot be extracted; the same is true for the interrogative degree operator *how* in English:

- (6) a. **How tall** is Mary?
 b. ***How_i** is Mary **t_i tall**?

While the overt requirement rules out an overt higher copy containing a lexical XP with a zero operator in (5), the higher copy of the QP is licensed with an overt operator. This can be observed in certain dialects of English, in which *how* can function as a comparative operator (see Bacskai-Atkari 2014: 109):

- (7) a. % Mary is taller than [**how tall**] Charles is [~~how tall~~].
 b. % The desk is longer than [**how wide**] the office is [~~how wide~~].

In cases like (7), the information structural properties of the lexical AP do not play any role in the visibility of the QP. In constructions like (5), the role of information structure lies in the fact that only contrastive lower copies remain; however, deletion itself in the [Spec,CP] position is not tied to information structural properties.

3. Predicative comparatives in Czech

In Czech, the configuration of an AP (either contrastive or not) in the base position and a zero operator is ruled out, as given in (2), repeated here as (8):

- (8) a. *Marie je vyšší, než je vysoký Karel. (Czech)
 Mary is taller than is tall Charles
 ‘Mary is taller than Charles.’
 b. *Ten stůl je delší, než je ta kancelář široká.
 that desk is longer than is that office wide
 ‘The desk is longer than the office is wide.’

The analysis of (8a) is unproblematic in terms of what was established already for (5a): the zero operator takes the AP to a [Spec,CP] position, and the higher copy of the quantified AP is deleted because of the overt requirement; on the other hand, the lower copy should not be realised either because it is not contrastive. However, in (8b) the AP is contrastive and while the deletion of the higher copy can be explained with the notion of the overt requirement, it is not straightforward why the lower copy of the AP cannot be realised.

Before turning to the examination of why (8b) is ruled out in Czech, let me first investigate whether there is an overt comparative operator in Czech. In interrogative clauses, the degree element *jak* ‘how’ is available as an operator, and it is extractable:

- (9) a. **Jak vysoký** je Karel? (Czech)
 how tall is Charles
 ‘How tall is Charles?’
- b. **Jak** je Karel **vysoký**?
 how is Charles tall
 ‘How tall is Charles?’

As can be seen, the operator *jak* may take the AP to the left periphery of the clause, as in (9a), but it is also possible to strand the AP, as in (9b). The behaviour of *jak* in Czech differs from the behaviour of *how* in English, cf. (6). This is because they occupy different positions within the functionally extended AP (Bacskai-Atkari 2014). The operator *how* is in a head position and hence it cannot be extracted; by contrast, *jak* is a modifier and hence it can be extracted as a phrase to a phrasal position.⁶

The operator *jak* is also available in comparatives, and is likewise extractable. The examples in (10) show the combination of *jak* used together with a non-contrastive AP:⁷

⁶ The distinction between the two operator positions follows from a more general distinction between Deg heads and QP modifiers in the functionally extended AP: the assumption is that there are two functional layers in the functionally extended AP (following Corver 1997; Lechner 1999, 2004), the DegP (degree phrase) and the QP (quantifier phrase). The operator can be a Deg head, which cannot be extracted on its own, or it can be a phrase in the specifier position of the QP above the DegP, which as a fully-fledged QP can move out if the entire QP is a predicate. Note that the two operators cannot co-occur as comparative semantics requires one and only one comparative operator at a time. The distinction between Deg heads and QP modifiers also causes further potential differences in the behaviour of the respective operators: however, what is relevant for us now is only the distinction with respect to extractability, and the discussion of further issues clearly falls outside the scope of the present investigation (but see Bacskai-Atkari 2014 for a detailed investigation).

⁷ Throughout this paper, I am using adjectives that can be considered prototypical gradable adjectives that occur naturally in comparative constructions (e.g. *tall*, *long*, or *wide*) in all the languages under scrutiny. Regarding the data in (10) in particular, it can be seen that all of the configurations are marked at least to some degree, and it has to be mentioned that for some speakers they may be more marked than for others. On the other hand, as far as individual judgments are concerned, my informants agree that the acceptability of the pattern in (10) does not depend on the particular adjective. I tested the same constructions using the adjective *intelligentní* ‘intelligent’, and the judgments were the same; note also that the comparative form is *intelligentnější* in Czech, hence a morphological comparative form just as *vyšší* ‘taller’ and thus there is no difference in the morphological shape, unlike English (the morphological comparative *taller* vs. the periphrastic comparative *more intelligent*). The only difference was that they thought *intelligent* was less frequently used in comparative constructions: even though it is definitely a gradable adjective, it tends to appear rather in its positive form, and in this respect entities either qualify as intelligent or not, and the degree of being intelligent is usually not expressed with this adjective as speakers feel that to be a bit too technical (which they do not report in connection with synonyms that are closer to English *smart*). As this question seems to be related to pragmatic or stylistic factors and affects the properties of adjectives on a more general level than just comparatives, I will not investigate this matter here any further, given that it would be irrelevant for the present investigation.

- (10) a. ?? Marie je vyšší, než **jak vysoký** je Karel. (Czech)
 Marie is taller than how tall is Karel
 ‘Marie is taller than Charles.’
- b. ? Marie je vyšší, než **jak** je **vysoký** Karel.
 Marie is taller than how is tall Karel
 ‘Marie is taller than Charles.’
- c. # Marie je vyšší, než **jak** je Karel **vysoký**.
 Marie is taller than how is Karel tall
 ‘Marie is taller than Charles.’

In (10a), the AP moves together with the operator to a [Spec,CP] position; this configuration is grammatical, though it is not the preferred option. The (non-contrastive) AP may be stranded in a clause-internal position, as in (10b); if it is stranded in a clause-final position, as in (10c), the sentence is infelicitous.

The examples in (11) show *jak* with a contrastive AP:

- (11) a. ?? Ten stůl je delší, než **jak široká** je ta kancelář. (Czech)
 that desk is longer than how wide is that office
 ‘The desk is longer than the office is wide.’
- b. # Ten stůl je delší, než **jak** je **široká** ta kancelář.
 that desk is longer than wide is wide that office
 ‘The desk is longer than the office is wide.’
- c. Ten stůl je delší, než **jak** je ta kancelář **široká**.
 that desk is longer than wide is that office wide
 ‘The desk is longer than the office is wide.’

In (11a), the AP moves together with the operator to a [Spec,CP] position; just as in (10a), the configuration is grammatical but it is not the preferred one. The (contrastive) AP may be stranded in a clause-final position, as in (11c); if it is stranded in a clause-internal position, as in (11b), the result is infelicitous. Hence while there is no difference in the acceptability between contrastive and non-contrastive APs in the [Spec,CP] position, just as was the case in (7) for English, the acceptable position of stranded APs shows a complementary distribution pattern between contrastive and non-contrastive APs.

The reason for why (10c) and (11b) are infelicitous is that the clause-final position is the sentential stress position in Czech (Šimík and Wierzba 2012), and the element carrying the main contrast involved in the comparison should be located there: this element is *Karel* in (10) but in (11) it is the AP *široká* ‘wide’. It has to be mentioned that the AP may move together with the operator to [Spec,CP], as in (10a) and (11a), but this is not the preferred position since it is

not sensitive to information structural properties, unlike a clause-internal position (for GIVEN, non-contrastive elements) and the clause-final position (for contrastive elements). The role of information structure in these cases is that it determines the preferred position of the AP: the condition for this is that the operator is separable.

The question still remains why (8) is ungrammatical. Given the fact that there is no overt operator there, one might assume that there is a zero operator, and that it takes the AP along to the [Spec,CP]: hence the higher copy is expected to be deleted due to the overttness requirement. However, (8) shows that the lower copy cannot remain even if it is contrastive, contrary to the English pattern. A possible reason might be that there is no zero operator in Czech in the first place (as is claimed e.g. for Hungarian by Bacskai-Atkari 2014), and hence the configurations in (8) are illicit. I am going to show that this idea cannot be maintained, and there is a different reason for why (8) is ruled out in Czech.

4. Predicative comparatives in Polish

In Polish, similarly to Czech, the configuration of an AP (either contrastive or not) in the base position and a zero operator is ruled out for most speakers, as given in (3), repeated here as (12):

- (12) a. **Maria jest wyższa niż Karol jest wysoki.* (Polish)
 Mary is taller than Charles is tall
 ‘Mary is taller than Charles.’
- b. */??? *Stół jest dłuższy niż biuro jest szerokie.*
 desk is longer than office is wide
 ‘The desk is longer than the office is wide.’

Again, the deletion of the higher copy of the quantified AP can be explained by the overttness requirement in both cases; however, the fact that the lower copy of a contrastive AP cannot be realised in (12b) is problematic. Before turning to the examination of why (12b) is ruled out in Polish, let me first investigate whether there is an overt comparative operator in Polish. In interrogative clauses, the degree element *jak* ‘how’ is available as an operator, and it not is extractable (unlike in Czech):

- (13) a. **Jak wysoki** jest Karol? (Polish)
 how tall is Charles
 ‘How tall is Charles?’

- b. ^{*/??} **Jak** jest Karol **wysoki**?
 how is Charles tall
 ‘How tall is Charles?’

However, *jak* is not available in comparatives on Polish (unlike in Czech), irrespectively of the word order or even whether the operator is separated from the AP or not; (14) shows that even the most plausible configuration (the operator and the AP in the [Spec,CP] position, as in interrogatives) is ruled out:

- (14) a. ^{*/???} *Maria jest wyższa niż **jak wysoki** jest Karol. (Polish)
 Mary is taller than how tall is Charles
 ‘Mary is taller than Charles.’
- b. ^{*/???} Stół jest dłuższy niż **jak szerokie** jest biuro.
 desk is longer than how wide is office
 ‘The desk is longer than the office is wide.’

Regarding the ungrammaticality of (12a), one might again argue that there is a zero operator (as there is clearly no overt one), and if this takes the AP along, the higher copy of the degree expression has to be deleted due to the overtness requirement. The problem is that the lower copy cannot remain even if it is contrastive, as shown by (12b), contrary to English. Note, however, that the operator must indeed be zero since there is no overt operator, as shown by (14), and the presence of an operator is required by the semantics in clausal comparatives.

This means that the reason for why the lower copy cannot be realised lies in something different from the properties of the operator. Moreover, this zero operator cannot be extractable either, as then both sentences in (12) should be fine, as is the case for the German and Dutch zero operator (see Bacskai-Atkari 2014). It follows that the zero non-extractable operator in Polish is essentially the same as the one in English, and hence the ban on realising lower copies is not due to the properties of the operator in Polish (and possibly in Czech).

5. Attributive comparatives

Before turning to the question why lower copies are illicit in Polish (and Czech), let me show that there is additional evidence for the existence of a zero operator that combines with lexical APs in these languages. The evidence comes from attributive comparatives. In this section, I am going to illustrate the behaviour of English comparatives in this respect, where the operator is likewise zero but where the entire QP cannot move out of the nominal expression it modifies. Section 6 will then show that Czech and Polish also have a zero operator but they behave in a predictably different way in terms of allowing QP-extraction.

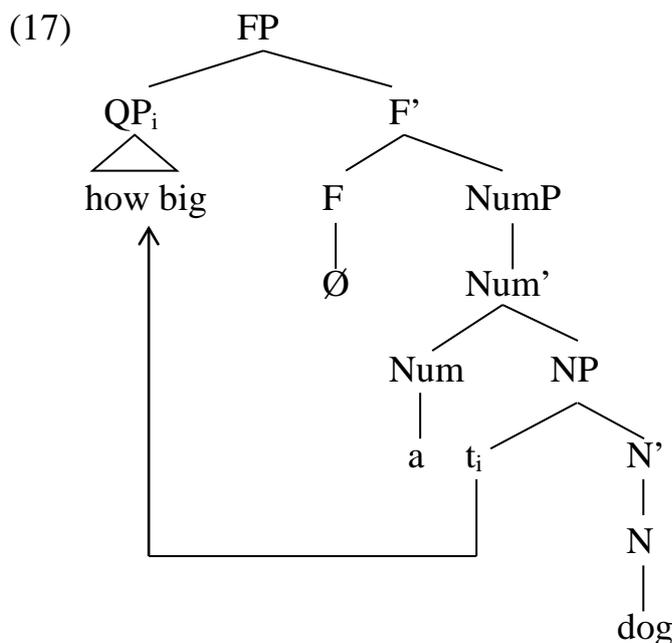
English attributive comparatives are illustrated in (15) below:

- (15) a. Mary bought a bigger dog than Peter did.
 b. Mary bought a bigger dog than Peter did a cat.

Regarding the syntax of attributive modification in English (cf. Kennedy and Merchant 2000: 124–134), there are two important observations to make: the QP modifier cannot be extracted from within the nominal expression, and the QP modifier moves to a left peripheral position within the nominal expression. The inversion is shown in the interrogative clause in (16):

- (16) **How big a dog** did Mary buy?

The structure of the nominal expression is shown below, where FP stands for an unspecified functional projection on the top of the nominal expression (Bacskai-Atkari 2014: 168, based on Kennedy and Merchant 2000: 125):



The same inversion takes place in the quantified nominal expression in comparative subclauses like the ones in (15) above (see Kennedy and Merchant 2000, Bacskai-Atkari 2014):

- (18) Mary bought a bigger dog than [x-big a cat] Peter did buy [x-big a cat].

As can be seen, the entire nominal expression (FP) moves up: the reason for this is that the QP cannot be extracted on its own, due to the Complex DP (NP) Island constraint that holds in English (Kayne 1983; Ross 1986; Grebenyova 2004; Bošković 2005). First, the higher copy of the FP is deleted in the [Spec,CP] position because of the overttness requirement:

(19) Mary bought a bigger dog than [~~x-big-a-cat~~] Peter did buy [x-big a cat].

Regarding the lower copy, the QP is not licensed in the [Spec,FP] position (see Kennedy and Merchant 2000); the reason for this is that this is also an operator position, and a QP containing a zero operator and an overt lexical phrase is ruled out by the overtness requirement just as it would be in the [Spec,CP] position (see Bacskai-Atkari 2014: 154–164).

Since there is no separate mechanism that would eliminate the QP on its own, a more general ellipsis mechanism applies, which is essentially VP-ellipsis (Kennedy and Merchant 2000; for a different approach to how VP-ellipsis works, see also Bacskai-Atkari 2014). The final string is shown in (20):

(20) Mary bought a bigger dog than [~~x-big-a-cat~~] Peter did buy [~~x-big a cat~~].

The necessity of verb deletion is also indicated by the fact that the lexical verb cannot remain overt:

(21) *Mary bought a bigger dog than Peter bought a cat.

Essentially, the condition for the grammaticality of sentences like (21) is that the QP may move out on its own out of the nominal expression, and that this QP is headed by a zero operator, which then leads to the obligatory elimination of higher copy in a [Spec,CP] position due to the overtness requirement. In other words, constructions like (21) can be used as a test for the extractability of the QP even if the QP is not visible.

6. Attributive comparatives in Czech and Polish

This section will show that the QP is extractable from the nominal expression in Czech and Polish, and that this is a general property not restricted to the comparative subclause. On the other hand, it will also be shown that the operator combining with the lexical AP is zero, similarly to English.

The extractability of the QP from the nominal expression in Czech and Polish can be observed in interrogatives too, where the QP is visible. The following examples are from Czech (Kennedy and Merchant 2000: 104, ex. 30):

(22) a. **Jak velké auto** Václav koupil? (Czech)
 how big car Václav bought
 ‘How big a car did Václav buy?’

- b. **Jak velké** Václav koupil **auto**?
 how big Václav bought car
 ‘How big a car did Václav buy?’

As can be seen, it is possible to move the entire nominal expression containing the QP, as in (22a), but it is also possible that the QP *jak velké* ‘how big’ moves out on its own, and the noun is stranded. The same can be observed in Polish (Kennedy and Merchant 2000: 104, ex. 29):

- (23) a. **Jak długą sztukę** napisał Paweł? (Polish)
 how long play wrote Paweł
 ‘How long a play did Paweł write?’
- b. **Jak długą** napisał Paweł **sztukę**?
 how long wrote Paweł play
 ‘How long a play did Paweł write?’

In comparative subclauses, it is possible to have an overt lexical verb and a remnant NP, showing that the QP had moved out on its own. This is illustrated in (24) for Czech (Kennedy and Merchant 2000: 105, ex. 32b):

- (24) Václav koupil větší auto než Tomáš ztratil loď. (Czech)
 Václav bought bigger car than Tomáš lost boat
 ‘Václav bought a bigger car than the boat that Tomáš lost.’

Based on the evidence for QP-extraction in interrogatives like (22), we can assume that the QP has moved out of the nominal expression in (24) as well, leaving the noun *loď* in its base position. The fact that the QP is not overt in the [Spec,CP] position follows from the overtness requirement, which forces the AP to be deleted if the operator is zero. In other words, there is indeed a zero comparative operator in Czech that can combine with lexical APs.

The same is true for Polish, as shown by (25) below (Kennedy and Merchant 2000: 104, ex. 31a):

- (25) Jan napisał dłuższy list, niż Paweł napisał sztukę. (Polish)
 Jan wrote longer letter than Paweł wrote play
 ‘Jan wrote a longer letter than Paweł did a play.’

In these cases, the higher copy of the QP is deleted in a [Spec,CP] position due to the overtness requirement. The remnant NP is not affected because it is not a lower copy itself, and hence its overt realisation does not require enforcing the pronunciation of a lower copy. The point is that there is a zero operator in Czech and Polish that can combine with lexical APs.

7. Predicative comparatives revisited

In Czech and Polish, the zero operator taking lexical APs is non-extractable, just as in English. This predicts that lower copies of non-contrastive APs are unacceptable just as they are in English; this is illustrated in (26):

- (26) a. *Marie je vyšší, než je vysoký Karel. (Czech)
 Mary is taller than is tall Charles
 ‘Mary is taller than Charles.’
- b. *Maria jest wyższa niż Karol jest wysoki. (Polish)
 Mary is taller than Charles is tall
 ‘Mary is taller than Charles.’

However, contrastiveness does not license the realisation of lower copies either, unlike in English; this is illustrated in (27):⁸

- (27) a. *Ten stůl je delší, než je ta kancelář široká. (Czech)
 that desk is longer than is that office wide
 ‘The desk is longer than the office is wide.’
- b. *^{/???} Stół jest dłuższy niż biuro jest szerokie. (Polish)
 desk is longer than office is wide
 ‘The desk is longer than the office is wide.’

Since the operator is essentially the same in Czech and Polish as in English, the difference between Czech and Polish on the one hand and English on the other hand cannot be due to a difference in the operator itself; rather, it is related to a difference in the overt realisation of copies of a movement chain: the realisation of a lower copy can be enforced in English, while this is not an available option in Czech and Polish. Note also that the clause-final position is an optimal position for contrastive elements in both Czech and Polish (and, as shown by (11) for Czech, this is actually the preferred position), hence there is nothing incompatible between the position and the AP in (27) either (and, as has been pointed out, the AP is disallowed in other positions too).

The difference in the overt realisation of lower copies is presumably related to another property of movement chains in these languages. While Czech and Polish are multiple *wh*-fronting languages, English is not: in an English multiple

⁸ Note that (27a) and (27b) differ in that (27a) contains a demonstrative element (*tan/ta*) before the nouns, while (27b) does not, but this bears no relevance to the argumentation presented here. Leaving out the demonstratives would not make the Czech sentence grammatical, and inserting the relevant demonstrative element (*ten/to*) would not affect the acceptability of the Polish sentence either. Furthermore, elliptical clauses would be allowed in both languages, hence the equivalents of “*The desk is longer than the office.*” would be acceptable, both with and without the demonstrative (this results in no interpretational difference in Polish, and some interpretational difference between generic and demonstrative readings in Czech).

wh-question only one element is fronted, and the remaining *wh*-elements are realised in situ by default. Consider:

(28) **Who** saw **what**?

By contrast, Czech and Polish are fundamentally multiple *wh*-fronting languages. The following examples illustrate Czech (Rudin 1988: 498, ex. 105; note that Rudin (1988) marks (29b) as ungrammatical, but several speakers have confirmed that it is actually well-formed; see Šimík (2010) on the conditions of fronting and non-fronting for multiple *wh* in Czech):

- (29) a. **Kdo koho** viděl? (Czech)
 who whom saw
 ‘Who saw whom?’
- b. **Kdo** viděl **koho**?
 who saw whom
 ‘Who saw whom?’

Polish, however, allows only the multiple fronting variant, as shown by the examples below (Rudin 1988: 497, ex. 104):

- (30) a. **Kto kiedy** wyjechał? (Polish)
 who when left
 ‘Who left when?’
- b. ***Kto** wyjechał **kiedy**?
 who left when
 ‘Who left when?’

The difference between English on the one hand and Czech and Polish on the other hand in this respect suggests that there is indeed a difference in the properties of movement chains between these two types of languages; therefore I conclude that there is reason to believe that the sentences in (27) are unacceptable, as opposed to English, because the realisation of lower copies of movement chains is generally different from the English pattern. In Polish, the overt realisation of any lower copy is ruled out, while Czech allows at least some of the *wh*-elements with an overt *wh*-marker to be realised, which is not the case in comparatives, where operator is essentially a relative operator and is also zero. The further investigation of these issues would require more length than could be provided within the present paper; still, the conclusion that can be drawn is that the ban on realising lower copies of quantified AP in Czech and Polish predicative comparative subclauses is not an independent property of comparatives but must follow from more general settings concerning movement

chains in the respective languages. In this way, the two key factors governing the realisation of quantified expressions in comparatives established by Bacskai-Atkari (2014), that is, the overtness and the extractability of the operator, can be complemented by a third factor, which lies in the properties of movement chains.

8. Conclusion

This paper investigated comparative clause formation in Czech and Polish, and it was found that these two languages differ from the Standard English pattern, and there are also slight differences between the two of them. I argued that there is an overtness requirement on left-peripheral elements, which licenses an overt higher copy of the quantified expression only if the operator is overt: this option is available in Czech but not in Polish. As far as Czech is concerned, this overt operator (*jak* ‘how’) is also extractable, and I showed that the AP may be stranded in positions according to its information structural status.

If the operator is zero, the QP is deleted in a [Spec,CP] position; if the QP moves out from within a nominal expression, the lexical NP may be left behind (in attributive comparatives). In predicative comparatives, the overt realisation of the lower copy of the QP is enforced by contrastiveness in English but not in Czech and Polish; I argued that this difference is related to more general properties of movement chains in the respective languages.

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