Splitting up the comparative: evidence from Czech

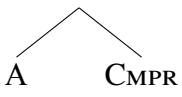
Karen De Clercq & Guido Vanden Wyngaerd
FWO/U Gent & KU Leuven

Abstract We argue that the comparative head that enters into the morphological makeup of the comparative (Bobaljik 2012) is to be split up into two distinct heads (see Caha 2016). Evidence for this claim comes from Czech comparative morphology, root suppletion, and the interaction of Czech suppletion with negation. We further argue that the account for root suppletion that we provide captures the data better than a DM account.

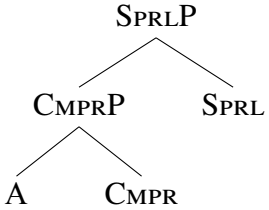
1 Introduction

Bobaljik (2012) argues that the structure of comparative adjectives is as in (1), and that of superlatives as in (2).

(1)



(2)



These structures reflect the Containment Hypothesis, which states that "the representation of the superlative properly contains that of the comparative" (Bobaljik 2012:7; see Dunbar and Wellwood 2016 for a recent alternative proposal to Bobaljik's). An important piece of evidence for this containment structure is found in the fact that in many languages the superlative transparently contains the comparative morphologically, as the data in (3) show (Bobaljik 2012:46).

(3)

	Pos	Cmpr	Sprl	
Persian	kam	kam-tar	kam-tar-in	‘little’
Cimbrian	šüa	šüan-ar	šüan-ar-ste	‘pretty’
Czech	mlad-ý	mlad-ší	nej-mlad-ší	‘young’
Hungarian	nagy	nagy-obb	leg-nagy-obb	‘big’
Latvian	zil-ais	zil-âk-ais	vis-zil-âk-ais	‘blue’
Ubykh	nüs^{w}ə	ç’a-nüs^{w}ə	a-ç’a-nüs^{w}ə	‘pretty’

A second argument in support of the Containment Hypothesis is that it captures an universal property of comparatives and superlatives, which is that when comparatives have a suppletive form, the superlative will also be suppletive and vice versa, i.e. there are no ABA-patterns as in (4b), nor AAB-patterns as in (4c).

(4) a. good-better-best
b. *good-better-goodest
c. *good-gooder-best

Bobaljik calls this the Comparative-Superlative Generalisation, and adduces extensive evidence in support of the fact that this generalisation is a language universal. Based on data from the morphology of Czech, root suppletion, and the interaction of suppletion with negation, this paper argues (in line with Caha 2016) that the Cmpr head is to be split up into two distinct heads.

2 Czech morphology

2.1 Data

The proposal we make for splitting Cmpr has independently been made by Caha (2016), who adduces some interesting evidence for it from the morphology of Czech, which we shall now review here.[1] The comparative in Czech is formed with the suffix *-(ěj)š-*, a morpheme that contains an optional element *-ěj-*. When *-ěj-* appears in the suffix, it causes palatalisation of the preceding consonant, which is indicated by writing the morpheme as *-ěj-* in isolation. For example, when it attaches to roots ending in *r*, it triggers a change of *r* to *ř*. The final *í/ý* in the examples be-

low is an agreement morpheme, that spells out Case, number and gender features.

(5)

červen-ěj-š-í	‘redder’
hloup-ěj-š-í	‘more stupid’
moudř-ej-š-í	‘wiser’

The *-ěj*-morpheme remains absent in a number of cases, some of which are predictable. For example, with suppletive comparatives, the *-ěj*-morpheme is systematically absent.

(6)

Pos	Cmpr	Sprl	
dobr-ý	lep-š-í	nej-lep-š-í	‘good’
špatn-ý	hor-š-í	nej-hor-š-í	‘bad’
mal-ý	men-š-í	nej-men-š-í	‘little, small’
velk-ý	vět-š-í	nej-vět-š-í	‘big’
star-ý	star-š-í	nej-star-š-í	‘old’

However, the morpheme can also remain absent with regular comparatives, as the case of *star-ý* ‘old’ shows. In certain cases, there is a templatic change to the root that correlates with the absence of the *-ěj*-morpheme (Scheer 2001).

(7)

Pos	Cmpr	
blízk-ý	bliž-š-í	‘close’
dlouh-ý	del-š-í	‘long’
vys-ok-ý	vyš-š-í	‘tall’
hloup-ý	hloup-ěj-š-í	‘stupid’
div-ok-ý	div-oč-ej-š-í	‘wild’

In the first three of these examples, we see a shortening of the root in the comparative as compared with that in the positive degree, which involves either the vowel (*blíz-bliž*), the vowel and the consonantic template (*dlouh-del*), or the *-ok*-morpheme (*vysok-vyš*). The final two examples show the absence of these shortening phenomena in the presence of the *-ěj*-morpheme. The phenomenon bears some resemblance to the phonological restriction on the English morphological comparat-

ive marker *-er*, which is restricted to occurring with monosyllabic and some disyllabic adjectives.

These data provide rather transparent morphological evidence that the Czech comparative morpheme needs to be decomposed into two separate morphemes, the *-ěj*-morpheme on the one hand, and the *-š*-morpheme on the other. This idea is further confirmed by the fact that the *-š*-morpheme is missing from comparative adverbs:

(8)

Cmpr Adj	Cmpr Adv	
červen-ěj-š-í	červen-ěj-i	'redder'
hloup-ěj-š-í	hloup-ěj-i	'more stupid'
moudř-ej-š-í	moudř-ej-i	'wiser'

The adjectives in the first column contain the regular endings, but in the presence of the adverbial morpheme *-i*, the *-š*-morpheme consistently disappears. The question is why this should be so. An obvious answer to this question is that the adverbial ending *-i* spells out both the Cmpr feature and an Adv feature. We shall not go into this issue any further here, as it would lead us too far afield.

Conversely, adjective-derived verbs systematically lack the *-ěj*-morpheme, and have only the *-š*-morpheme. An example is the adjective *dlouh-ý* 'long', from which two verbs can be derived, one based on the root of the positive degree *dlouh-ý* 'long', one based on the shape of the root that appears in the comparative degree *del-š-í* 'longer':

(9)

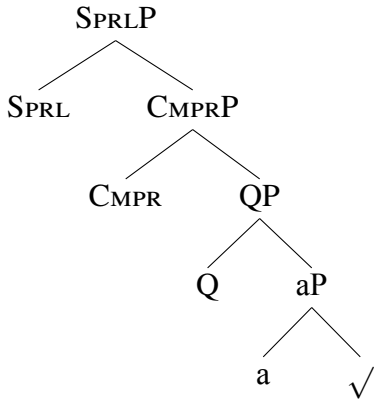
Adj	Verb	
dlouh-ý	z-dloužˇ-i-t	'prolong'
long-agr	out-long-cause-inf	
del-š-í	z-del-š-i-t	'prolong'
long-cmpr-agr	out-long-cmpr-cause-inf	

Strikingly, in either case the *-ěj*-morpheme remains absent, and only the *-š*-morpheme is present. This is generally the case for adjective-derived verbs. These facts, and in particular the extent to which they are systematic, strongly suggest that the regular Czech comparative involves two distinct morphemes.

2.2 Proposal

Before we present an analysis of the Czech data, and in particular our proposal for two distinct comparative heads, we want to first discuss a sample Nanosyntactic derivation of a regular comparative and superlative, as it will present the necessary background against which the rest of the analysis will be set. We assume a structure that is closely similar to that of Bobaljik given in (1) and (2) above, with a few minor modifications. We assume that gradable adjectives contain a Q head, which is responsible for gradability (cf. De Clercq and Vanden Wyngaerd 2017). QP dominates a categorial *a*-head and a root. The complete structure is therefore as follows:

(10)



A gradable adjective like *smart* is the phrasal spellout of the QP-node in the structure above, whereas the comparative morpheme spells out only the Cmpr feature; the superlative morpheme spells out both the Sprl and Cmpr features. The corresponding lexical items are given in (11):

(11) a. < /smɑːt/, [$_{QP}$ [$_{aP}$ [$_{√P}$ √]]] >
b. < /ər/, [$_{CmprP}$ Cmpr] >
c. < /əst, [$_{SprlP}$ Sprl [$_{CmprP}$ Cmpr]] >

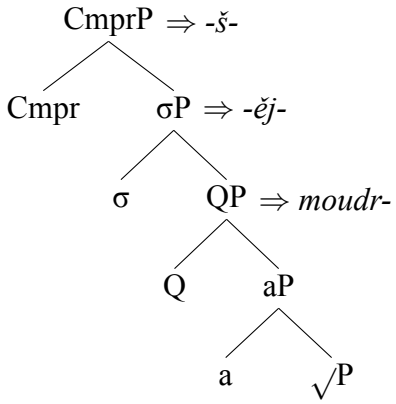
Nanosyntax (Starke 2009; Caha 2009) has cyclic phrasal spellout: after each Merge step in syntax, the lexicon is consulted for spellout, and if a suitable lexical item is found, the node is spelled out, i.e. paired with a phonology. After the syntax has merged QP, it consults the lexicon and finds a match in *smart*, which leads to the spellout of QP as *smart*.

The derivation may stop here, or may proceed to Merge CMPR, creating CMPRP; the lexicon is consulted again, but no lexical item matches the structure of CMPRP in (10); in particular, the lexical item for *-er* in (11b) does not contain QP and the material dominated by QP in (10). Movement must therefore take place so that CMPRP may be spelled out: the complement of CMPR (QP) moves to the left, adjoining to CMPRP. Now (the lower segment of) CMPRP matches (11b), and CMPRP spells out as *-er*, yielding *smart-er*. If the syntax proceeds to Merge SPRLP, the same procedure is repeated: QP moves leftward to adjoin to SPRLP, which now comes to dominate SPRL and CMPRP; as a result, *-est* spells out SPRLP, overwriting the earlier spellout *-er*, and deriving *smart-est*. In languages where the comparative and superlative morphemes are stacked onto one another (such as those in (3)), the lexicon has slightly different morphemes: in particular, the superlative morpheme only spells out the SPRL feature and not the CMPR feature. As a result, there are two distinct morphemes for the CMPR and the SPRL features in these languages, hence providing support to the nanosyntactic tenet that language variation can be reduced to the size of lexically stored trees (Starke 2011).

The Czech evidence discussed above suggests that there are two morphemes involved in the comparative. We take this to mean that the structure in (10) is not fine-grained enough, and we propose to decompose CMPR into two different heads, which we shall call σ and CMPR. Again, we first consider a regular Czech comparative (*moudr-ěj-š-(í)* 'wiser'), where the two heads (σ and CMPR) correspond to the two distinct morphemes *-ěj-* and *-š-*, respectively:

(12) a. < /-š-/, [$_{\text{CMPRP}}$ CMPR] >
b. < /-ěj-/, [$_{\sigma\text{P}}$ σ] >
c. < /moudr-/, [$_{\text{QP}}$ Q [$_{\text{aP}}$ a [$_{\sqrt{\text{P}}}$ $\sqrt{}$]]] >

(13)



The adjectival root *moudr-* spells out the QP-node, whereas *-ěj-* only spells out the σ-feature, and *-š-* only spells out the CMPR-feature. This will require (successive) spellout driven movements of the QP to the left, as explained in detail for the case of *smarter* above (see (10) and surrounding discussion), thus deriving *moudr-ěj-š-*. In English (and most other languages), these two features are spelled out by a single morpheme, i.e. the regular comparative morpheme spells out both σ and CMPR. This means that the lexical items we gave in (12) for the comparative and superlative morphemes need to be updated to those in (14):

(14) a. < /ər/, [$_{\text{CMPRP}}$ CMPR [$_{\sigma\text{P}}$ σ]] >
b. < /əst, [$_{\text{SPRLP}}$ SPRL [$_{\text{CMPRP}}$ CMPR [$_{\sigma\text{P}}$ σ]]] >

In the following section, we shall show how this analysis provides an elegant account of root suppletion.

3 Root Suppletion

Root suppletion provides a second argument for the existence of two separate heads σ and CMPR in the comparative. In this section, we first present some necessary background on the analysis of suppletion and root suppletion in both Nanosyntax and Distributed Morphology. Next, we show that the Czech root suppletion data provide support for our analysis, and how this Nanosyntactic analysis does a better job at capturing the data.

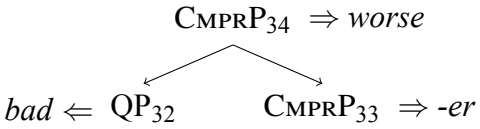
There are two different kinds of suppletion, both of which are found with comparatives. On the one hand, there are cases of root suppletion like (4), where the endings *-er* and *-st*, which are typical of regular comparatives and superlatives, are also found attached to the suppletive root. On the other hand, there are cases of wholesale suppletion, where no (regular) affix is recognizable in the suppletive form, as in (15):

(15) bad-worse-worst

In Nanosyntax, wholesale suppletion is accounted for by the mechanism of pointers inside lexical items, which point to, or contain, other lexical items (Starke 2009; 2014). For example, in the case of *bad-worse* suppletion, the lexical item of *worse* (given in (16a)) contains a pointer to the lexical items for *bad* (see (16b)), on the one hand, and the comparative morpheme *-er* on the other, (see (16c)):

(16) a. $<_{34}$ /wɜːs/, [$_{\text{XP}}$ 32 33]>
b. $<_{32}$ /bæd/, QP>
c. $<_{33}$ /ər/, CmprP>

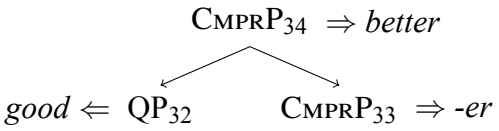
After QP and CmprP have been merged and spelled out in this way, the syntax Merges these two items, creating CmprP. The lexicon is consulted and the item (16a) is found. CmprP is spelled out as *worse*, overwriting the earlier spellout of *bad* and *-er*. Spellout is informally represented by the double arrows in (17).

(17)


This analysis formalises the common sense observation that *worse* suppletes for, or overwrites, the regular form *bad+er*.

However, root suppletion as in *better* faces a problem. If we assume the lexical items in (18), then *better* will supplete for *good+er*, as desired. The problem is that it remains a coincidence under this analysis that *better* contains a morpheme (*-er*) that is identical to the regular morpheme.

(18) a. $<_{34}$ /bɛtər/, [$_{XP}$ 32 33]>
b. $<_{32}$ /gʊd/, QP>
c. $<_{33}$ /ər/, CmprP>

(19)


Put differently, under such an analysis *better* is treated as an unanalysed suppletive form, without taking into account the fact that it contains the regular suffix of the comparative. In the Nanosyntactic paradigm, root suppletion lays bare a problem with the feature system, and forces us to dig deeper into the nanofeatures of comparatives. In what follows, we show that the two heads we have assumed for the comparative allow an elegant account of root suppletion. What is more, we shall show that this approach is more principled than the Distributed Morphology account.

At first blush, Distributed Morphology (Halle and Marantz 1993; Harley and Noyer 1999; Bobaljik 2012) has a better account of root suppletion. Insertion of vocabulary items takes place after syntax by means of Rules of Exponence, which take the form in (20).[2]

(20) a. $\sqrt{\text{GOOD}} \rightarrow$ *good*
b. $\sqrt{\text{GOOD}} \rightarrow$ *be(tt)-* / ___] CMPR]

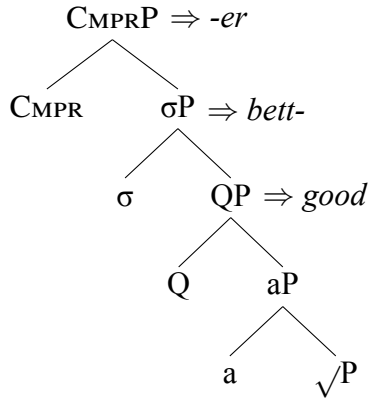
What these rules say is that *good* will be inserted under the terminal that dominates the root $\sqrt{\text{GOOD}}$ in all contexts, except in the more specific context of CMPR, where the suppletive root *bett-* will be inserted. The exception follows from the context-sensitive rule (20b).

The alternative view on root suppletion we want to defend here is that the content of the comparative is actually featurally present in the suppletive form, i.e. the essence of the contrast between *good* and *bett-* is not their different contexts of insertion, but is their internal makeup. The fact that they appear in different environments follows automatically from general principles governing lexical insertion.

Our proposal is that the suppletive root in comparatives spells out a slightly larger node than QP, namely σP (Caha 2016 has the same

proposal, but he calls the two heads at issue CMPR2 and CMPR1). The syntactic tree and the corresponding lexical items are given below:

(21)

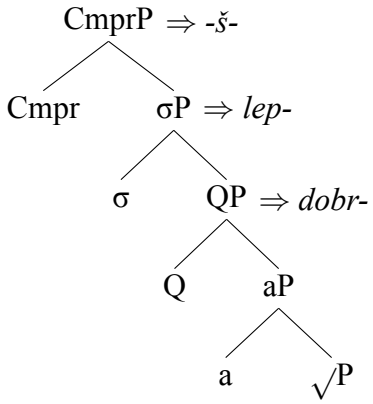


(22) a. $<_{44}$ /bɛt/, [$_{\sigma P}$ σ 43]] >
b. $<_{43}$ /gʊd/, [$_{QP}$ Q [$_{aP}$ a [$_{\sqrt{P}}$ $\sqrt{}$]]] >
c. < /ər/, [$_{CMPRP}$ CMPR [$_{\sigma P}$ σ]] >

What (22a) implies in particular is that *bett-* is the (suppletive) spellout of the σ-feature and the adjective *good*. The way the derivation works is that, when QP is merged, the lexicon is consulted, and *good* spells out QP. Then, at the merger of σP, *good* is overwritten by the suppletive form *bett-*; due to the presence of the pointer this can only happen if at a prior stage QP was spelled out as *good*. At the merger of CMPRP, the comparative suffix *-er* is spelled out (modulo the raising of σP to adjoin to the left of CMPRP).

This analysis directly explains why in Czech suppletive roots are systematically incompatible with the *-ěj*-morpheme, as shown by the examples in (6) above. The tree and the lexical items below illustrate this for the Czech pair *dobr-lep-* 'good-bett-' :

(23)



(24) a. $<_{34}$ /lep-/, [$_{\sigma P}$ σ 35]] >
b. $<_{35}$ /dobr-/, [$_{QP}$ Q [$_{aP}$ a [$_{\sqrt{P}}$ √]]] >

Here too *lep-* is the spellout of the σ-feature and the adjective *dobr-*. Since the suppletive root *lep-* already spells out σ, *-ěj-* cannot also spell out the same feature. The suppletive root 'eats up' the *-ěj-*morpheme, as it were.

The analysis extends straightforwardly to the cases in (7) above, where the comparative morpheme *-š-* attached directly to a shortened version of the stem, without an intervening *-ěj-* morpheme. Here, too, we assume that the shortened stem spells out σP, and that the shortened stem is related to its long version by means of a pointer (as in the lexical entries in (24)).

There are also adjectives like *star-* 'old', which have a comparative *star-š-í*, without any surface reflex of the *-ěj-* morpheme. Which adjectives belong to this class is unpredictable. We account for them by assuming that their lexical entry has the same size as that of suppletive roots, i.e. σP, but without a pointer, which explains why such adjectives are not suppletive:[3]

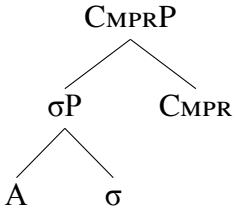
(25) < /star-/, [$_{\sigma P}$ σ [$_{QP}$ Q [$_{aP}$ a [$_{\sqrt{P}}$ √]]]] >

Because of the Superset Principle, which allows lexical items to spell out subtrees contained in them (Caha 2009), this lexical item will be able to spell out both the positive degree (i.e. QP) and σP, which enters into the derivation of the comparative. The fact that *star-* can spell out

σP explains why the *-ěj-*morpheme remains absent. The fact that it does not contain a pointer explains why there is no suppletion.

The DM account in terms of context-sensitive Rules of Exponence faces a difficulty here, specifically in explaining the incompatibility of *-ěj-* with suppletive and shortened roots. Assume for concreteness the following DM-structure for the comparative, which minimally differs from the one in (1) above in the presence of σP:

(26)



The rule for the insertion of the suppletive *lep-* would need to be slightly modified from (20b) above to make reference to the adjacent σ-head rather than CMPR:

(27) $\sqrt{\text{GOOD}} \rightarrow$ *lep* / ___] σ]

The more serious problem is the rule for σ. In the general case, σ will spell out as *-ěj-* in Czech; this is achieved by (28a). But the insertion of a suppletive root at A has to pre-empt the rule that inserts *-ěj-* at σ next up in the cycle. One way of achieving that is to supplement the general rule (28a) with the context-sensitive rule in (28b), which says is that σ is spelled out as zero if the preceding head has been spelled out as *lep-*.

(28) a. σ → *ěj*
b. σ → Ø / *lep* ___

The more specific rule will take precedence over the more general one, and thus prevent the insertion of *-ěj-* with *lep-*. The problem with (28b) is that it will have to be duplicated for each root that does not have *-ěj-*, but it is clear that this listing of rules misses a generalisation. It is a pure coincidence under this approach that suppletive and shortened roots are systematically incompatible with *-ěj-*, since it depends on the existence of a collection of rules of the form in (28b).[4] In the Nanosyntactic ap-

proach that we have presented, there is a principled explanation for this systematic restriction.

In sum, the Nanosyntactic account of root suppletion in Czech comparatives provides a principled account for a systematic fact of Czech comparative morphology, namely the absence of *-ěj-* in comparatives with suppletive and shortened roots. In a DM account, this has to be stipulated on a per item basis, i.e. for each suppletive root individually, rather than as a general rule.

4 Root suppletion and negation

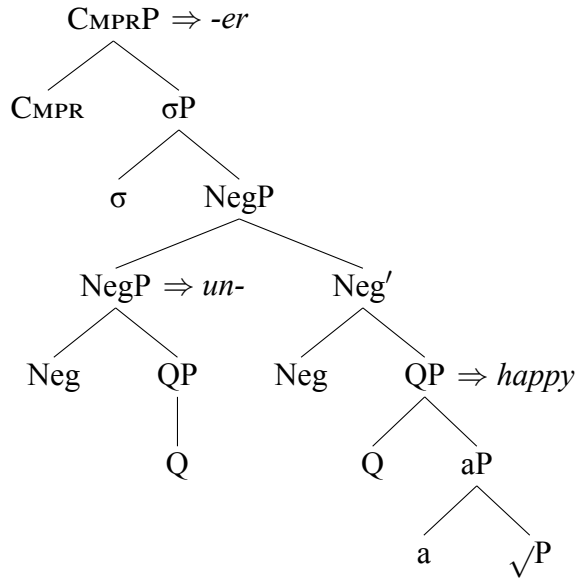
4.1 A minimal contrast

In this section, we discuss an interaction between negation and root suppletion, which provides interesting confirmation for our analysis. The abstract case we want to consider has the structure of *unhappier*. Since semantically the comparative takes scope over the negation (i.e. the meaning of *unhappier* is [MORE [NOT happy]]), we need a position for negation between QP (the position of the adjective) and σP (which marks the beginning of the comparative domain) in our above representations. A greatly simplified structure representing this idea is given in (29):

(29) [-er [un [happy]]]

This position for negation is given in the analysis of De Clercq and Vanden Wyngaerd (2017), who argue that the negative prefix *un-* spells out a complex specifier that is merged in a NegP that immediately dominates QP:

(30)



Raising NegP to the left of CMPR will allow the comparative suffix to spell out to yield *unhappier*.[5]

The situation we want to consider is one like *unhappier*, but where the adjective would be one with root suppletion in the comparative. In terms of our analysis, this would be an adjective with a lexical spellout for σP in the absence of the negative prefix. What we expect here is that suppletion would be blocked due to the intervening NegP. Such a situation is not going to arise easily, since adjectives with root suppletion in the comparative are usually few in number to begin with, and of those we need one that allows *un*-prefixation (which rules out all the English adjectives with root suppletion, e.g. **ungood, *unmuch, *unbad*).

Such a rare situation is however found Czech, and the expectation that suppletion is blocked is borne out. The adjective in question is *dobrý* 'good', which as we saw earlier has root suppletion in the comparative (*lep-š-í* 'better'). The positive degree can be prefixed with the negative prefix *ne-* (*ne-dobr-ý* 'bad', lit. 'un-good'). Interestingly, with this *ne-* prefixed form, root suppletion in the comparative is blocked: *ne-dobř-ejš-í*, and not **ne-lep-š-í*.[6]

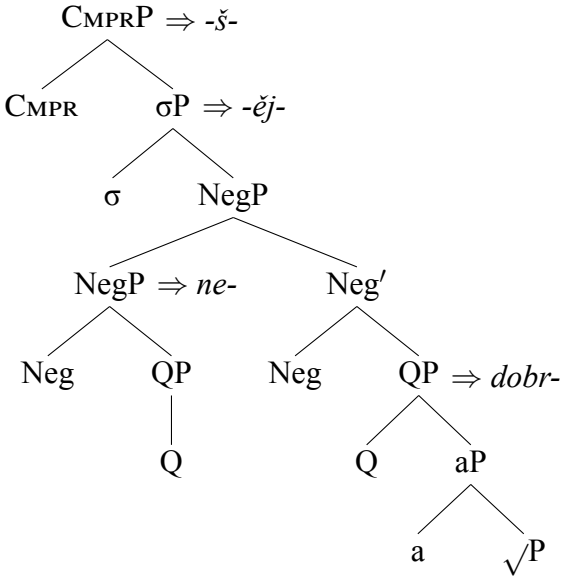
This case confirms the prediction, but there is a twist. There is another adjective, which would at first sight appear to contradict it. This is the adjective *mal-ý* 'small', which also features root suppletion in the

comparative (*men-š-í* ‘smaller’). Like *dobr-ý* ‘good’, *mal-ý* ‘small’ can be prefixed with the negative prefix *ne-* to yield *ne-mal-ý* ‘not small’. The minimal contrast now is that *ne-mal-ý* does have root suppletion in the comparative: *ne-men-š-í*. We shall present an account for this minimal contrast in terms of the presence of an underlying Neg feature in *mal-* ‘small’, which is absent from *dobr-* ‘good’.

4.2 The contrast explained

The structure of *ne-dobr-ý* ‘bad’ is identical to that of *unhappy* as given in (30) above (up to NegP). The structure of the comparative *ne-dobř-ej-š-í* looks as in (31):

(31)



The spellout *ne-dobř-ej-š-* ‘worse’ is derived by successive-cyclically moving the NegP that dominates *ne-dobr-* to the left, adjoining it first to σP, then to CmprP, allowing the suffixes to spell out, and yielding *ne-dobř-ej-š-*. Given the structure in (31), we see why we cannot get the suppletive root *lep-* here: there is no constituent in (31) that could spell out the lexical item *lep-*, given in (24a) above. In particular, The σP of (31) contains a Neg-feature which is absent from *lep-*; as a result,

the syntactic tree is not a subtree of the lexical tree, in violation of the Superset Principle.

Let us next look at the adjective *malý* 'small'. A crucial element of our analysis is that negative adjectives spell out a NegP.

(32) < /mal/, [$_{\text{NegP}}$ Neg [$_{\text{QP}}$ Q [$_{\text{aP}}$ a [$_{\sqrt{\text{P}}}$ $\sqrt{}$]]]] >

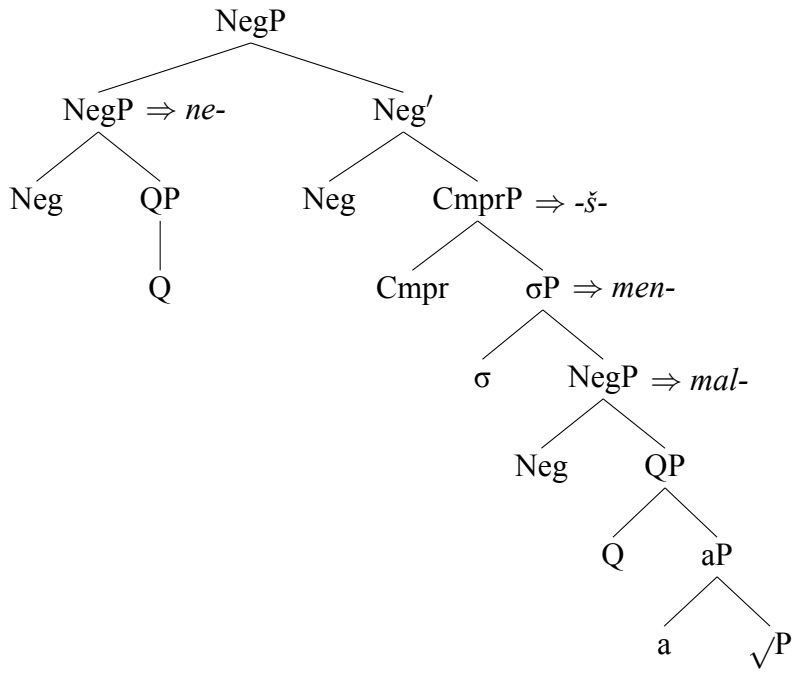
A consequence of this is that the negative prefix *ne* can no longer take scope under the CMPR-head, since it can be shown independently that negative adjectives cannot take a negative prefix with low scope, i.e. there can be no stacking of low scope negative markers (e.g. **un-breathless, *unimpossible, *unsad*; see Horn 1989; De Clercq and Vanden Wyngaerd 2017 for discussion). Since *malý* 'small' already spells out a Neg feature, the negative marker *ne-* must take scope higher than the CMPR head, with a concomitant change in meaning. The structural difference in the position and scope of the negative marker is represented in (33):

(33) a. [[ne-dobr-]ejší] = [MORE [NOT-GOOD]] i.e. 'worse'
b. [ne-[men-ší]] = [NOT [MORE SMALL]] i.e. 'not smaller' (rather than 'bigger')

These two comparatives differ in wether they can describe a situation where A and B are equally good/small: (33a) cannot describe a situation in which A is equally good as B, whereas (33b) can describe a situation in which A is equally small as B. For example, if Mary had a bad (*ne-dobr-ý*) lunch, John can say he had an (even) worse (*ne-dobř-ej-š-í*) one; *ne-dobř-ej-š-í* 'worse' cannot be used in a situation where both lunches are equally bad. The comparative *ne-men-š-í* 'not smaller', on the other hand, is possible in a context where John donated a big sum to a charity, and Mary a not smaller (*ne-men-ší*) one. This comparative is compatible with a situation where John and Mary donated equal amounts of money. In the latter reading, the scalar focus marker *even* is not possible, whereas in the former one it is (in fact preferred).

Having established that the negative marker *ne-* can take scope in different positions, we now proceed to explain the possibility of root suppletion in the case of *ne-mal-ý* 'not small'. The relevant tree structure is given in (34):

(34)



Negative adjectives like *mal-* 'small' spell out a larger structure than positive ones, namely NegP; due to this fact, *ne-* cannot be merged at this level anymore, and is merged above CmprP. The fact that *mal-* spells out NegP also voids the intervention effect that this Neg head triggered in the case of *ne-dobr*: after σ is merged, creating σP, the spellout *mal-* is overwritten by the suppletive root *men*, in the usual fashion. Subsequently, σP raises to the left of Cmpr, allowing the suffix to spell out. The *ne*-marker is spelled out independently and attaches as a complex specifier higher in the structure, creating *ne-men-š-* 'not smaller'.

5 Conclusion

In this paper we presented three types of evidence in support of splitting up of the Cmpr head of Bobaljik (2012) into two distinct heads. The evidence came from Czech comparative morphology, root suppletion, and the interaction of suppletion and negation. We argued that the Nanosyntactic account of root suppletion captures the generalisation in a more elegant way than the DM account.

Acknowledgment

This paper owes its existence to a friendly comment by Pavel Caha after reading a handout of a paper about our work on negative adjectives (De Clercq and Vanden Wyngaerd 2016). It was he who pointed us to the minimal contrast we discuss in section 4 of this paper. This made us think about a way to represent root suppletion, which led to conclusions remarkably similar to his own (Caha 2016). We also are grateful to both Pavel Caha and Radek Šimík for useful informant data on Czech.

Notes

[1] As Caha notes, Bobaljik (2012) similarly assumes two comparative heads for the analysis of Bulgarian.

[2] Rules of Exponence are subject to locality constraints, which allow an account of the absence of ABA-patterns noted in (4) above. A discussion of these would lead us too far in the present context (see Embick 2010; Bobaljik 2012; Moskal 2013).

[3] It is likely that the lexical tree of *star-* also contains a Neg feature, for reasons to be explained in the next section.

[4] An alternative solution is to have Fusion (Halle and Marantz 1993) or local dislocation under linear adjacency (Embick 2010), which would result in a single head dominating the features A and σ, which would then be spelled out by the suppletive root. While this allows a principled account of the absence of *-ěj-* in the presence of suppletive roots, it suffers from the derivational look-ahead problem discussed in Caha (to appear).

[5] We assume that the phonological bracketing is different, i.e. [un[happier]], accounting for the fact that the comparative is morphological rather than periphrastic (Hoekstra et al. 1988).

[6] Moskal (2015:371) discusses a similar case in Serbo-Croatian, where root suppletion in the plural is blocked in the presence of a diminutive morpheme. We hope to return to cases like this in future work.

References

Bobaljik, J. (2012). *Universals In Comparative Morphology*. Cambridge, MA: MIT Press.

Caha, P. (2009). *The Nanosyntax of Case*. Ph.D. dissertation, University of Tromsø, Tromsø.

Caha, P. (2016). 'Explaining Bobaljik's Root Suppletion Generalization as an instance of the Adjacency Condition (and beyond)'. Ms., Masarykova Univerzita, Brno.

Caha, P. (to appear). 'Notes on insertion in distributed morphology and nanosyntax'. In L. Baunaz, K. De Clercq, L. Haegeman and E. Lander, eds, *Exploring Nanosyntax*, Oxford University Press.

De Clercq, K. and Vanden Wyngaerd, G. (2016). 'A Constraint on Double Negation'. Ms. U Gent/KU Leuven.

De Clercq, K. and Vanden Wyngaerd, G. (2017). 'Why Affixal Negation is Syntactic'. In *Proceedings of WCCFL 34*, Cascadilla Press.

Dunbar, E. and Wellwood, A. (2016). 'Addressing the 'Two Interface' Problem: Comparatives and Superlatives'. *Glossa* 1, 5. 1–29.

Embick, D. (2010). *Localism versus Globalism in Morphology and Phonology*. MIT Press.

Halle, M. and Marantz, A. (1993). 'Distributed morphology and the pieces of inflection'. In K. Hale and J. Keyser, eds, *The View from Building 20*, Cambridge, Massachusetts: MIT Press. 111–176.

Harley, H. and Noyer, R. (1999). 'State-of-the-article: distributed morphology'. *Glot International* 4, 3–9.

Hoekstra, T., van der Hulst, H. and van der Putten, F. (1988). 'Structuurparadoxen bestaan niet'. *Spektator* 17, 300–316.

Horn, L. (1989). *A Natural History of Negation*. Chicago: The University of Chicago Press.

Moskal, B. (2013). *A Case Study in Nominal Suppletion*. dissertation, University of Connecticut, Storrs, CT.

Moskal, B. (2015). 'Limits on Allomorphy: A Case Study in Nominal Suppletion'. *Linguistic Inquiry* 46, 363 – 376.

Scheer, T. (2001). 'The Rhythmic Law in Czech: Vowel-final Prefixes'. In G. Zybatow, U. Junghanns, G. Mehlhorn and L. Szucsich, eds, *Current Issues in Formal Slavic Linguistics*, Frankfurt am Main: Peter Lang. 37–48.

Starke, M. (2009). 'Nanosyntax: A Short Primer to a New Approach to Language'. *Nordlyd* 36, 1–6.

Starke, M. (2011). 'Towards an Elegant Solution to Language Variation: Variation Reduces to the Size of Lexically Stored Trees'. Ms., Tromsø University.

Starke, M. (2014). ‘Cleaning up the lexicon’. *Linguistic Analysis* 39, 245–256.