Splitting up the comparative

Evidence from Czech

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Outline

1. The Containment Hypothesis
2. Czech morphology
3. The internal structure of the comparative
4. Suppletion
5. Suppletion meets Negation
6. Conclusions

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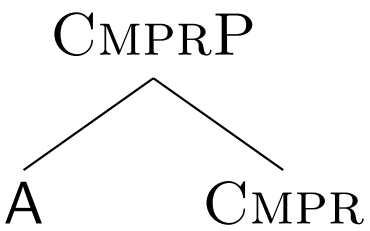
Containment Hypothesis

'The representation of the superlative properly contains that of the comparative' (Bobaljik 2012: 4)

(1)



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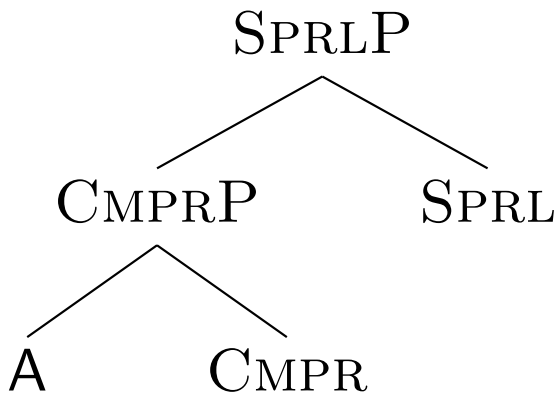


Morphological evidence

	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	‘orange’
Ubykh	nüsʷə	ç’a-nüsʷə	a-ç’a-nüsʷə	‘pretty’

CSG

Comparative-Superlative Generalisation

When the comparative has a suppletive form, the superlative will also be suppletive, and vice versa (Bobaljik 2012: 29-30).

CSG

Comparative-Superlative Generalisation

When the comparative has a suppletive form, the superlative will also be suppletive, and vice versa (Bobaljik 2012: 29-30).

(3)

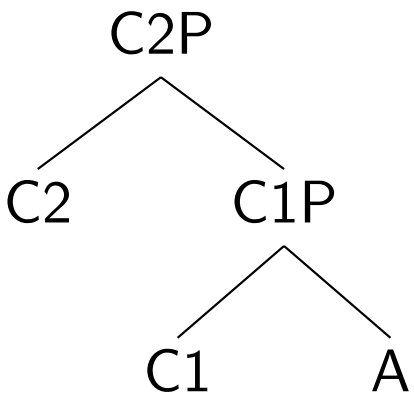
ABB	good	better	best
*ABA	good	better	goodest
*AAB	good	gooder	best

Cmpr = C1 +C2

Our claim

- the Cmpr head is to be split up into two distinct heads, C1 and C2 (see also Caha 2016)

(4)



Evidence comes from Czech

- regular degree morphology
- root suppletion in degree morphology
- the interaction of negation and root suppletion in degree morphology

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Regular comparative degree morphology

-ějš-

(5)

Pos	Cmpr	Sprl	
červen-ý	červen-ějš-í	nej-červen-ějš-í	‘red’
hloup-ý	hloup-ějš-í	nej-hloup-ějš-í	‘stupid’
moudr-ý	moudř-ejš-í	nej-moudř-ejš-í	‘wise’

Regular comparative degree morphology

-ějš-

(6)

Pos	Cmpr	Sprl	
červen-ý	červen-ějš-í	nej-červen-ějš-í	'red'
hloup-ý	hloup-ějš-í	nej-hloup-ějš-í	'stupid'
moudr-ý	moudř-ejš-í	nej-moudř-ejš-í	'wise'

í/ý = adjectival agreement: Case, number, gender

ějš = *ěj*+*š*

5 pieces of evidence showing that -*ějš*- consists of two parts (*ěj*+*š*)

1. -*ěj*- disappears with suppletive roots
2. -*ěj*- disappears in cases where the root shortens
3. -*ěj*- can disappear non-predictably
4. -*ěj*- disappears with de-adjectival verbs
5. -*š*- disappears with comparative adverbs

❶ *-ěj-* disappears with suppletive roots

(7)

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’

❷ *-ěj-* disappears in cases where the root shortens

(8)

Pos	Cmpr	
dlouh-ý	del-š-í	‘long’
blízk-ý	bliž-š-í	‘close’
vys-ok-ý	vyš-š-í	‘tall’

❸ *-ěj-* can disappear non-predictably

(9)

Pos	Cmpr	
star-ý	star-š-í	‘old’
such-ý	suš-š-í	‘dry’
drah-ý	draž-š-í	‘expensive’

❹ *-ěj-* disappears with de-adjectival verbs

(10)

Pos	Cmpr	Verb	
such-ý	suš-š-í	(u-)suš-i-t	‘dry’
mokr-ý	mokř-ejš-í	(za-)mokř-i-t	‘wet’
levn-ý	levn-ějš-í	z-levn-i-t	‘cheap’
drah-ý	draž-š-í	z-draž-i-t	‘expensive’
dlouh-ý	del-š-í	z-dlouž-i-t, z-del-š-i-t	‘long’

❺ *-š-* disappears with comparative adverbs

(11)

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’

Preliminary Conclusion

The regular comparative suffix consists of two parts: *ěj+š*

Nanosyntax

- One Feature, One Head (OFOH)
- Postsyntactic Lexicon
- Phrasal Spellout
- Language variation can be reduced to the size of lexically stored trees (Starke 2011)

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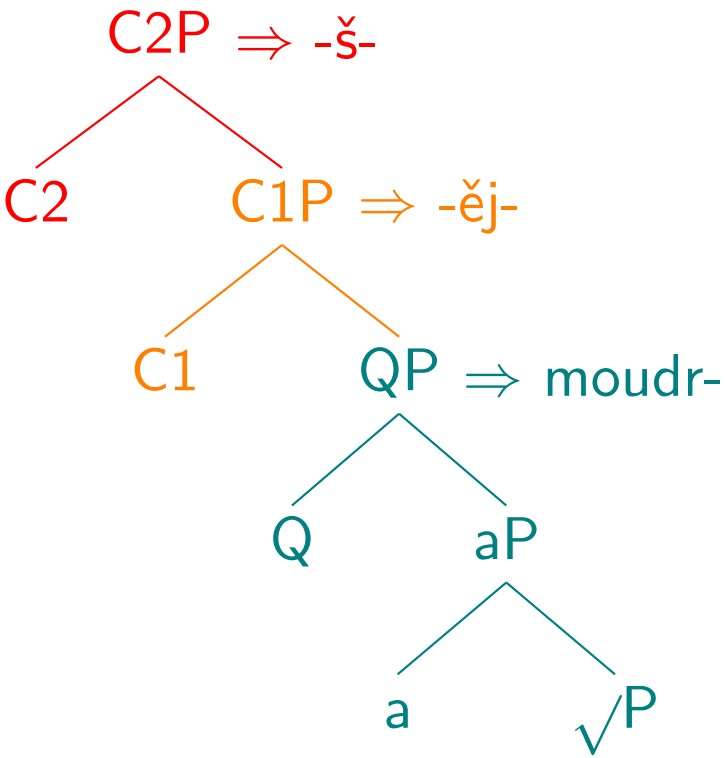
The Czech regular comparative

(12)



The lexicon

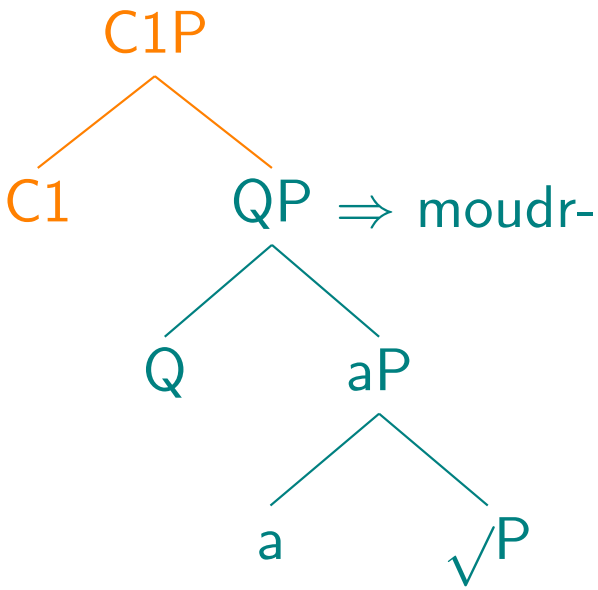
(13) a. $< /\text{moudr-}/, [_{QP}\ Q\ [_{aP}\ a\ [_{\sqrt{P}}\ \sqrt{}\ ]]],\ \textsc{wise} >$

b. $< /\text{-ěj-}/, [_{C1P}\ C1\ ] >$

c. $< /\text{-š-}/, [_{C2P}\ C2\ ] >$

The derivation-1

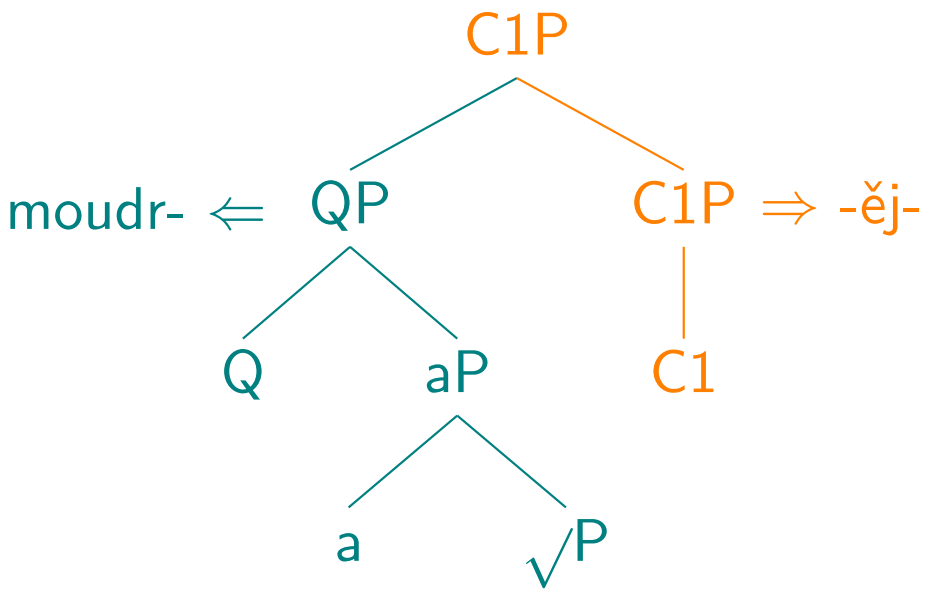
(14)



< /moudr-/, [$_{QP}$ Q [$_{aP}$ a [$_{\sqrt{P}}$ $\sqrt{}$]]], WISE >
< /-ěj-/, [$_{C1P}$ C1] >

The derivation-2 (spellout-driven movement)

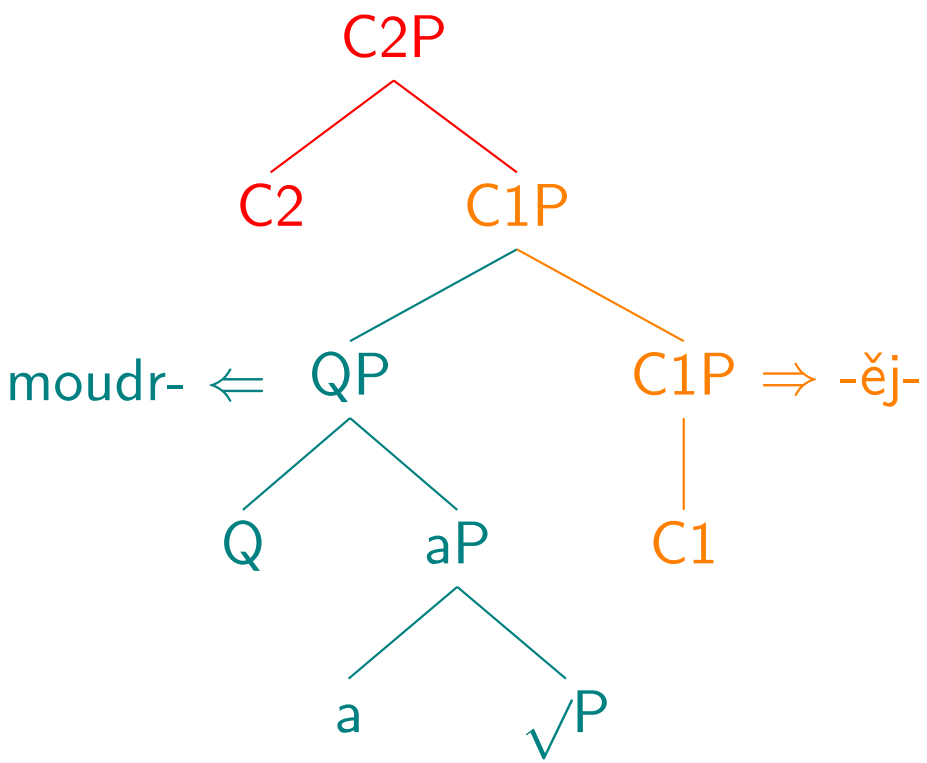
(15)



< /-ěj-/, [$_{C1P}$ C1] >

The derivation-3

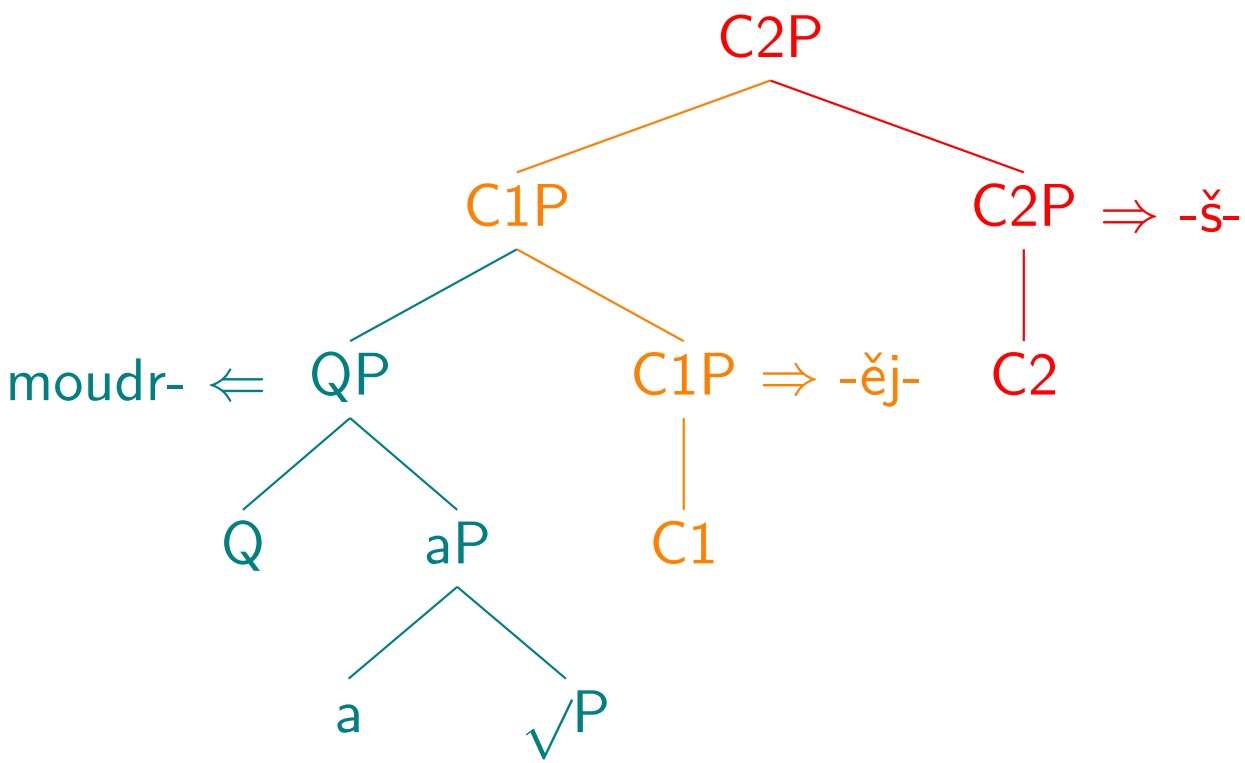
(16)



< /-š-/, [C2P C2] >

The derivation-4

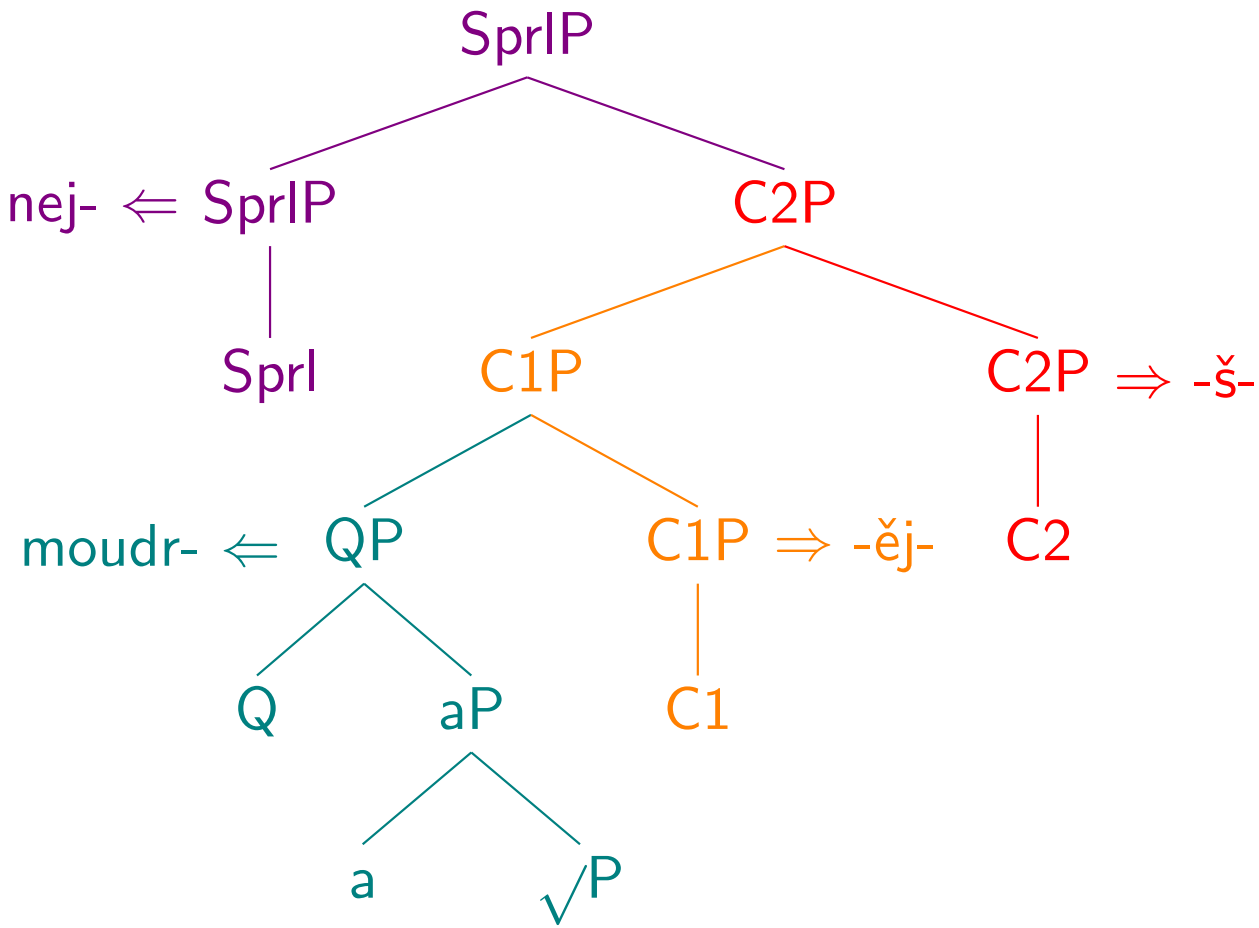
(17)



< /-š-/, [C2P C2] >

The derivation-5

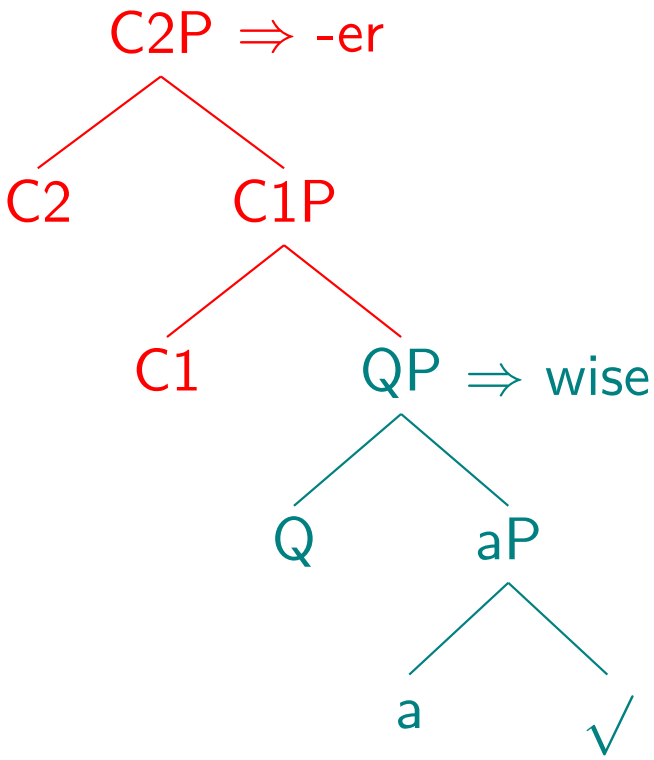
(18)



< /-nej-/, [$_{\text{SprIP}}$ Sprl] >

English

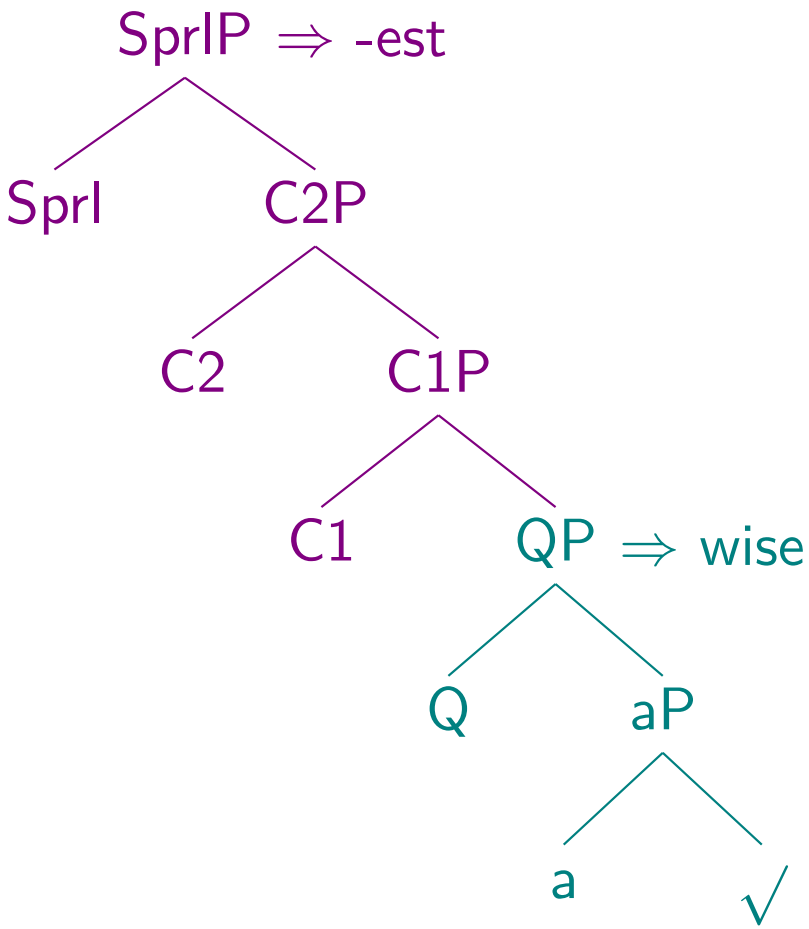
(19)



(20) a. $< /\text{wise}/, [_{QP}\ Q\ [_{aP}\ a\ [_{\sqrt{P}}\ \sqrt{}\ ]]] >$

b. $< /\text{-er}/, [_{C2P}\ C2\ [_{C1P}\ C1\ ]] >$

(21)



(22) $< /\text{-est}/, [_{\text{SprIP}}\ \text{SprI}\ [_{\text{C2P}}\ \text{C2}\ [_{\text{C1P}}\ \text{C1}\ ]]] >$

Language variation

(23)

POS	CMPR	SPRL
wise	wis-er	wis-est
moudr-ý	moudř-ej-š-í	nej-moudř-ej-š-í

- the difference between Czech and English is entirely located in the size of the lexically stored trees

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Suppletion

Two types:

- Portmanteau suppletion (24a)
- Root suppletion (24b)

(24)

	Pos	Cmpr	Sprl
a.	bad	worse	worst
b.	good	bett-er	be(t)-st

Portmanteau suppletion: pointers

(25) a. $<_{\text{WORSE}}$ /worse/, [$_{\text{C2P}}$ BAD ER] >

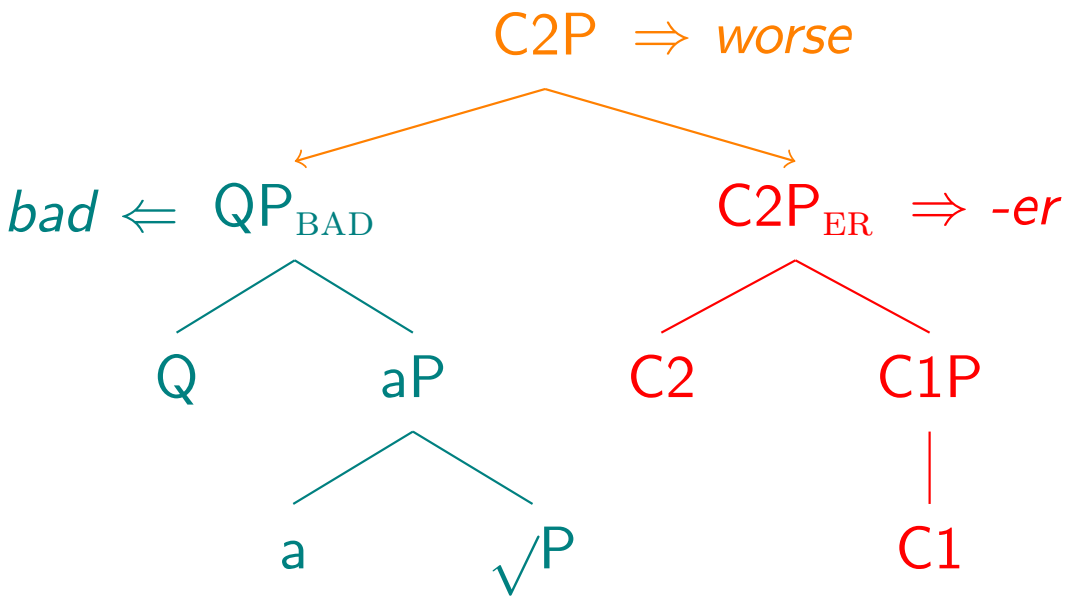
b. $<_{\text{BAD}}$ /bad/, [$_{\text{QP}}$ Q [$_{\text{aP}}$ a $\sqrt{\text{P}}$]] >

c. $<_{\text{-ER}}$ /-er/, [$_{\text{C2P}}$ C2 [$_{\text{C1P}}$ C1]] >

Portmanteau suppletion: pointers

(25) a. $<_{\text{WORSE}}$ /worse/, [C2P BAD ER] >
b. $<_{\text{BAD}}$ /bad/, [QP Q [aP a $\sqrt{}$P]] >
c. $<_{\text{-ER}}$ /-er/, [C2P C2 [C1P C1]] >

(26)



Root Suppletion in Distributed Morphology

- root suppletion = contextual allomorphy

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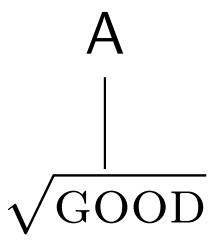
(27)



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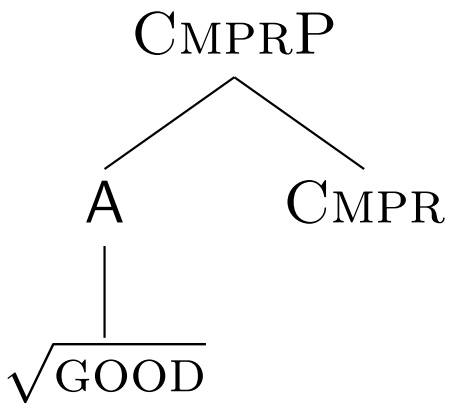


(29) a. $\sqrt{\text{GOOD}} \rightarrow$ *be(tt)-* / ____] Cmpr]

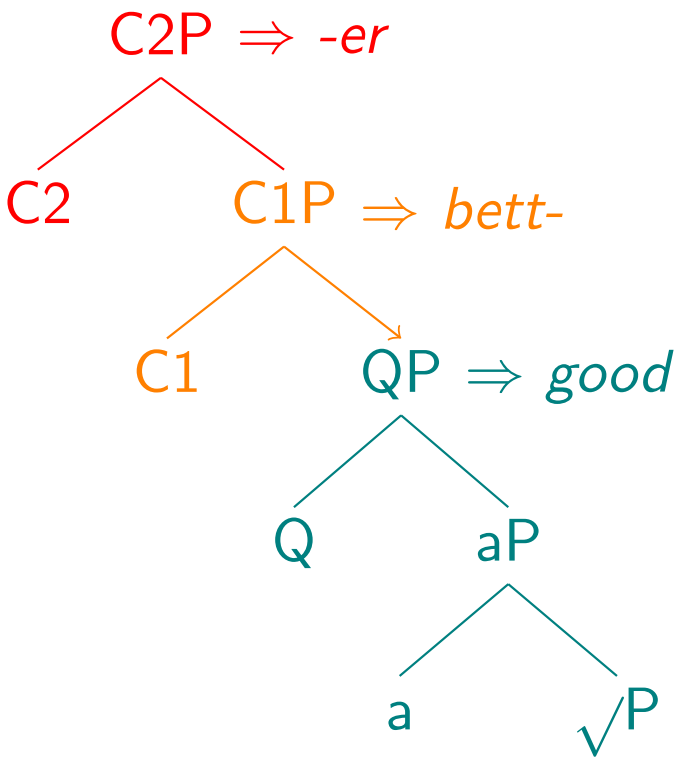
b. $\sqrt{\text{GOOD}} \rightarrow$ *good*

Nanosyntax

- lexical insertion is uniquely governed by the *Superset Principle* and the *Elsewhere Principle*
- rules of contextual allomorphy are unavailable
- the contrast between *good* and *bett-* is one of internal makeup
  - *good* spells out QP
  - *bett-* spells out C1P (and contains a pointer to GOOD)
- we will argue that this approach is superior to the DM one

better

(30)



(31) a. $<_{\text{GOOD}}$ /good/, [$_{\text{QP}}$ Q [$_{\text{aP}}$ a [$_{\sqrt{P}}$ $\sqrt{}$]]] >

b. $<_{\text{BETT}}$ /bett-/, [$_{\text{C1P}}$ C1 GOOD]] >

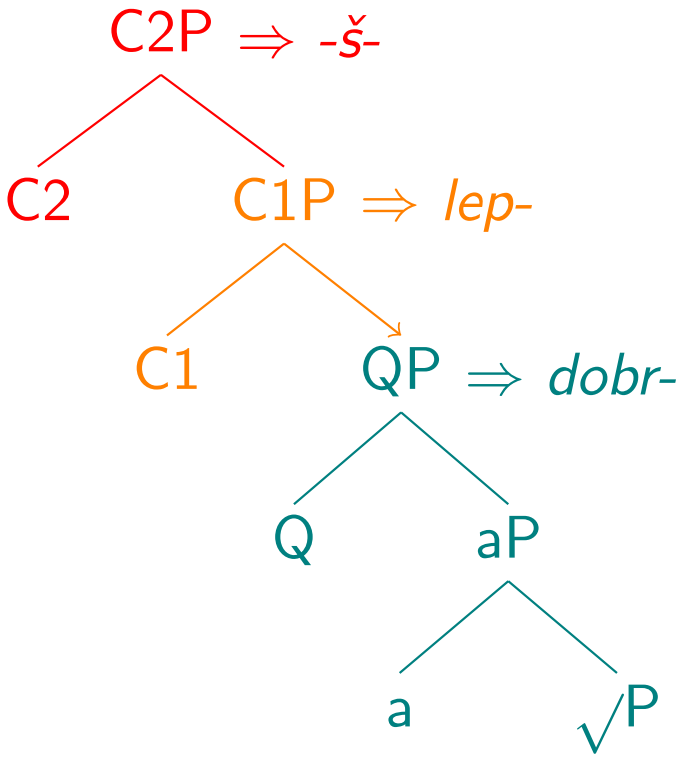
This analysis explains 1

5 pieces of evidence showing that *-ějš-* consists of two parts (*ěj+š*)

1. ***-ěj-* disappears with suppletive roots**
2. *-ěj-* disappears in cases where the root shortens
3. *-ěj-* can disappear non-predictably
4. *-ěj-* disappears with de-adjectival verbs
5. *-š-* disappears with comparative adverbs

lep- eats up *-ěj-*

(32)



(33)

a. $<_{\text{DOBR}}$ /dobr-/, [$_{\text{QP}}$ Q [$_{\text{aP}}$ a [$_{\sqrt{\text{P}}}$ $\sqrt{}$]]] >

b. $<_{\text{LEP}}$ /lep-/, [$_{\text{C1P}}$ C1 DOBR]] >

c. < /-ěj-/, [$_{\text{C1P}}$ C1] >

d. $<_{\check{\text{S}}}$ /-š-/, [$_{\text{C2P}}$ C2] >

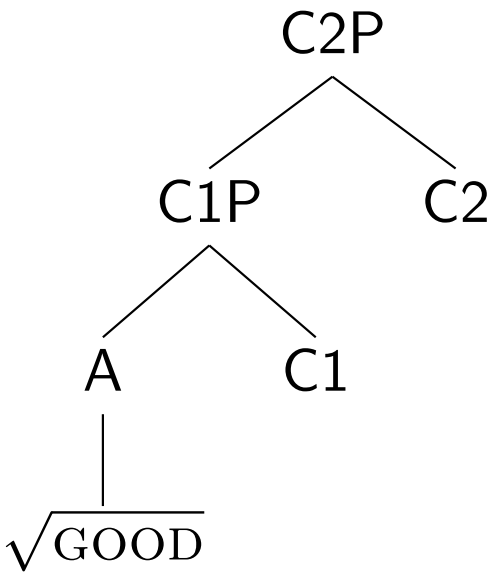
This analysis explains 1

1. *-ěj-* disappears with suppletive roots

- *-ěj-* spells out the C1 feature
- the suppletive root *lep-* also spells out C1
- therefore, suppletive roots are predicted to be incompatible with *-ěj-* in principle

DM: contextual allomorphy

(34)



DM: contextual allomorphy

(35) a. $\sqrt{\text{GOOD}} \rightarrow$ *lep-* / ____] C1]
b. $\sqrt{\text{GOOD}} \rightarrow$ *dobr-*

(36) a. C1 $\rightarrow$ *ěj*
b. C1 $\rightarrow$ Ø / *lep* ____

- a rule like (36b) must be duplicated for each suppletive root
- nothing in principle prevents the existence of suppletive roots with *-ěj-*: these would simply be cases where a rule like (36b) would be lacking
- there is no principled explanation for the systematic absence of *-ěj-* with suppletive (and shortened) roots

The analysis explains 2

5 pieces of evidence showing that *-ějš-* consists of two parts (*ěj+š*)

1. *-ěj-* disappears with suppletive roots
2. ***-ěj-* disappears in cases where the root shortens**
3. *-ěj-* can disappear non-predictably
4. *-ěj-* disappears with de-adjectival verbs
5. *-š-* disappears with comparative adverbs

$\Rightarrow$ shortened roots (like suppletive roots) spell out C1P

(8)

Pos	Cmpr	
dlouh-ý	del-š-í	‘long’
blízk-ý	bliž-š-í	‘close’
vys-ok-ý	vyš-š-í	‘tall’

(37) a. $<_{\text{DLOUH}}$ /dlouh-/, [$_{\text{QP}}$ Q [$_{\text{aP}}$ a [$_{\sqrt{\text{P}}}$ $\sqrt{}$]]] >

b. $<_{\text{DEL}}$ /del-/, [$_{\text{C1P}}$ C1 DLOUH]] >

The analysis explains 3

5 pieces of evidence showing that *-ějš-* consists of two parts (*ěj+š*)

1. *-ěj-* disappears with suppletive roots
2. *-ěj-* disappears in cases where the root shortens
3. **-*ěj*- can disappear non-predictably**
4. *-ěj-* disappears with de-adjectival verbs
5. *-š-* disappears with comparative adverbs

$\Rightarrow$ the relevant lexical items spell out C1P

(9)

Pos	Cmpr	
star-ý	star-š-í	'old'
such-ý	suš-š-í	'dry'
drah-ý	draž-š-í	'expensive'

(38) $< /\text{star-}/, [_{\text{C1P}}\ \text{C1}\ [_{\text{QP}}\ \text{Q}\ [_{\text{aP}}\ \text{a}\ [_{\sqrt{\text{P}}}\ \sqrt{}\ ]]]] >$

- *star-* can spell out C1P, causing *-ěj-* to disappear in the comparative
- *star-* does not contain a pointer
- in virtue of the Superset Principle, *star-* can also spell out QP
- the difference between these adjectives and the ones that do take *-ěj-š-* is a matter of lexical idiosyncrasy

5 pieces of evidence showing that *-ějš-* consists of two parts (*ěj+š*)

1. *-ěj-* disappears with suppletive roots
2. *-ěj-* disappears in cases where the root shortens
3. *-ěj-* can disappear non-predictably
4. ***-ěj-* disappears with de-adjectival verbs** (difficult)
5. ***-š-* disappears with comparative adverbs** (easy)

5 pieces of evidence showing that *-ějš-* consists of two parts (*ěj+š*)

1. *-ěj-* disappears with suppletive roots
2. *-ěj-* disappears in cases where the root shortens
3. *-ěj-* can disappear non-predictably
4. ***-ěj-* disappears with de-adjectival verbs** (difficult)
5. ***-š-* disappears with comparative adverbs** (easy)

We skip 4 and 5 here
...and move on to the interaction with negation ...

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A hypothetical case

The hypothetical case we wish to consider is one of an adjective with the following properties:

1. a morphological comparative
2. a negative prefix
3. root suppletion

- *unhappier* has 1 and 2, but not 3
- *ungood* would have all three (if it existed!)
- Czech has the equivalent of *ungood*

Unhappier has – theoretically speaking – 2 possible bracketings:

(39) a. [MORE [NOT happy]]
b. [NOT [MORE happy]]

Unhappier has – theoretically speaking – 2 possible bracketings:

(39) a. [MORE [NOT happy]]
b. [NOT [MORE happy]]

- these bracketings correspond with two readings
- the readings are distinguished in contexts where A and B are equally unhappy
- only (39b) can describe such a situation.

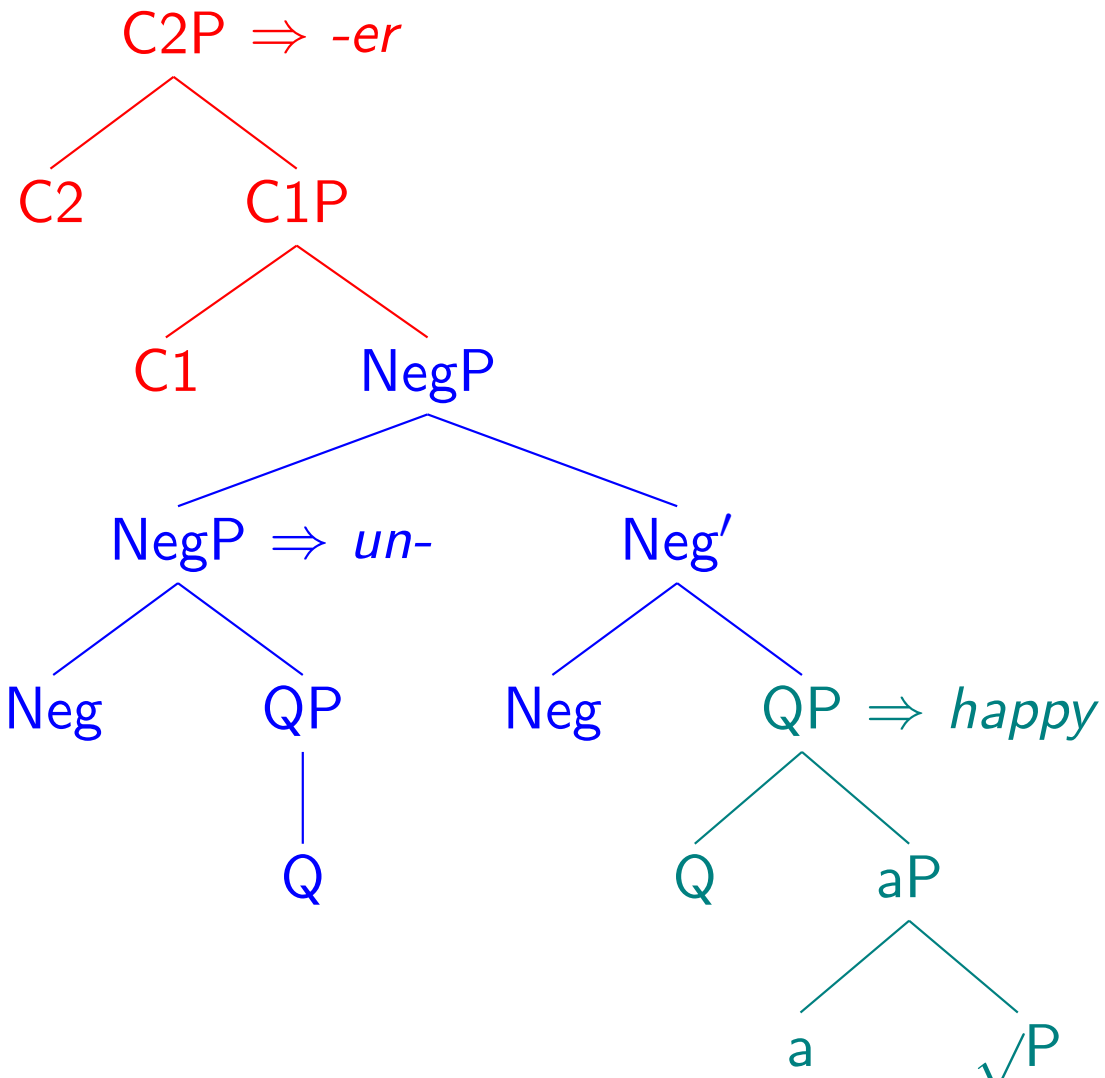
(40) A is *unhappier* than B.

- this is incompatible with a situation where A and B are equally unhappy
- the structure (39a) is correct for *unhappier*

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

[[unhappi]er]

(42)



A hypothetical case

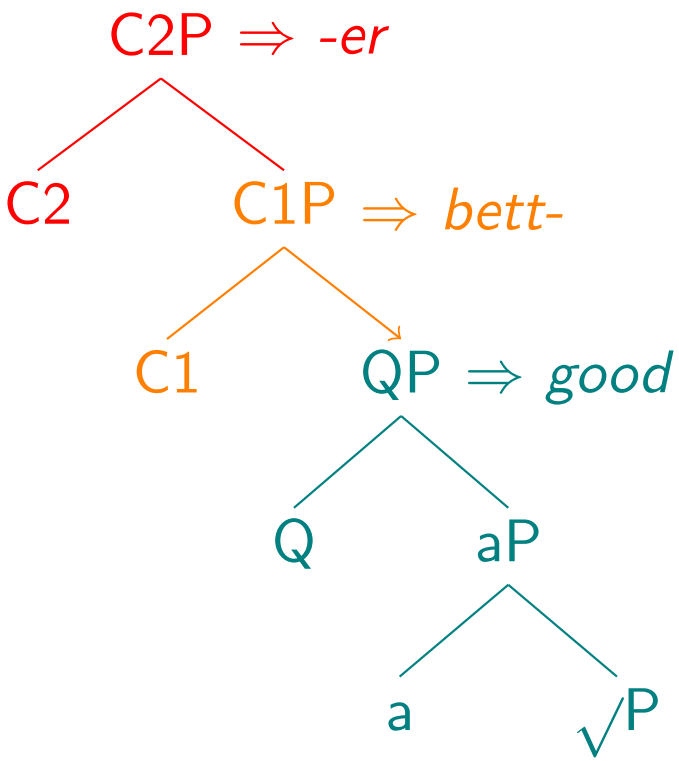
(43)

POS	CMPR	SPRL
good	better	best
ungood	*unbetter*	*unbest*
ungood	*ungooder*	*ungoodest*

- we predict *ungooder* rather than *unbetter*
- this follows from the structure in (30), and the lexical items in (31) (repeated from above)

better

(30)

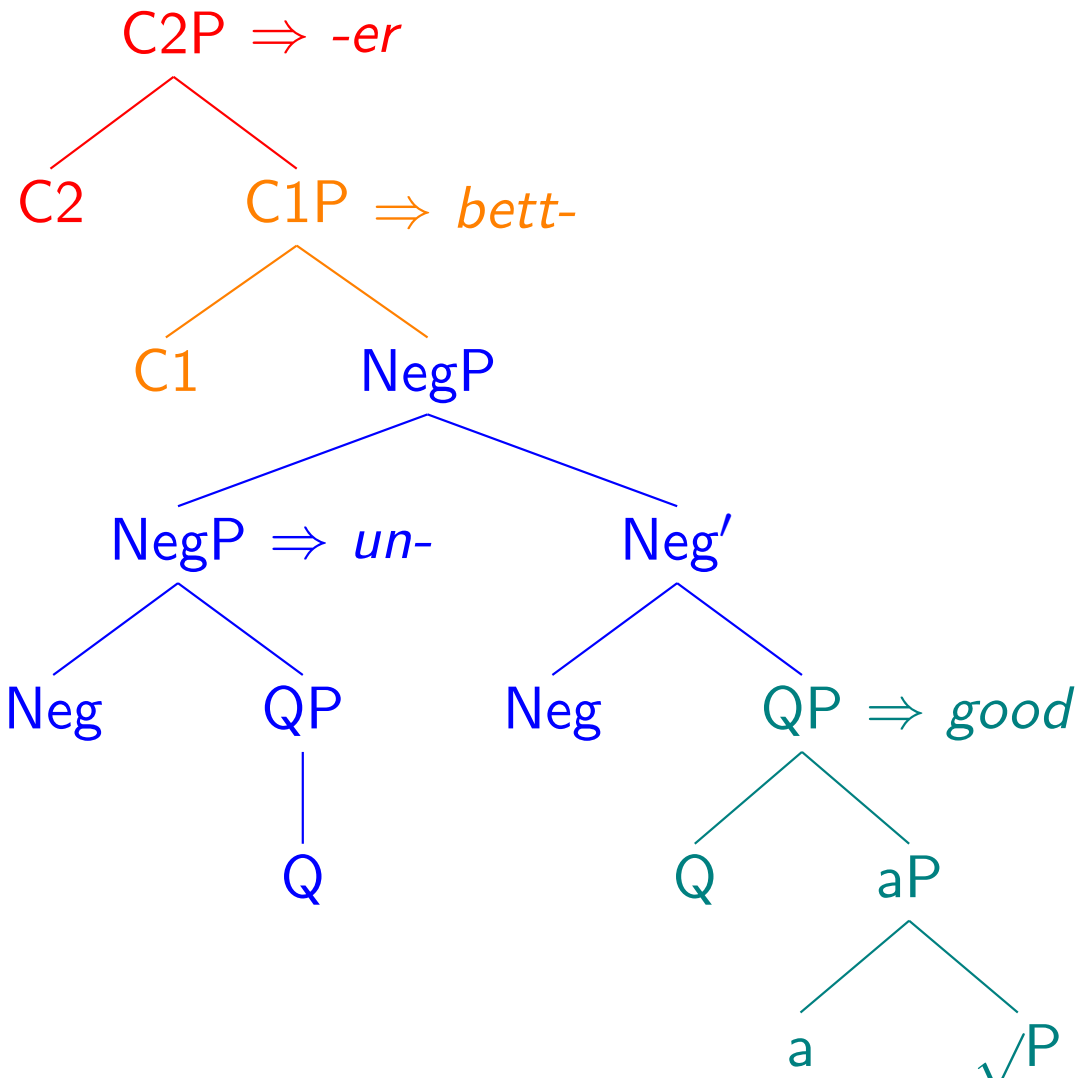


(31) a. $<_{\text{GOOD}}$ /good/, [$_{\text{QP}}$ Q [$_{\text{aP}}$ a [$_{\sqrt{P}}$ $\sqrt{}$]]] >

b. $<_{\text{BETT}}$ /bett-/, [$_{\text{C1P}}$ C1 GOOD]] >

*ungooder/*unbetter*

(44)



- if NegP intervenes between C1P and QP, *bett-* can no longer spell out C1P
- this is because the syntactic tree now contains a feature Neg between C1 and Q
- as a result, C1P contains a Neg feature, which is not part of the lexical makeup of *bett-*
- as a result, *bett-* cannot spell out C1P
- in contrast, there is no problem with *un-good-er*: each exponent spells out a constituent in the syntactic tree

An actual case

Czech confirms our prediction

(45)

POS	CMPR	
dobr-ý	lep-š-í	‘good’
ne-dobr-ý	*ne-lep-š-í	‘bad’
ne-dobr-ý	ne-dobř-ej-š-í	‘bad’

An actual case

Czech confirms our prediction

(45)

POS	CMPR	
dobr-ý	lep-š-í	'good'
ne-dobr-ý	*ne-lep-š-í	'bad'
ne-dobr-ý	ne-dobř-ej-š-í	'bad'

ne-dobř-ej-š-í

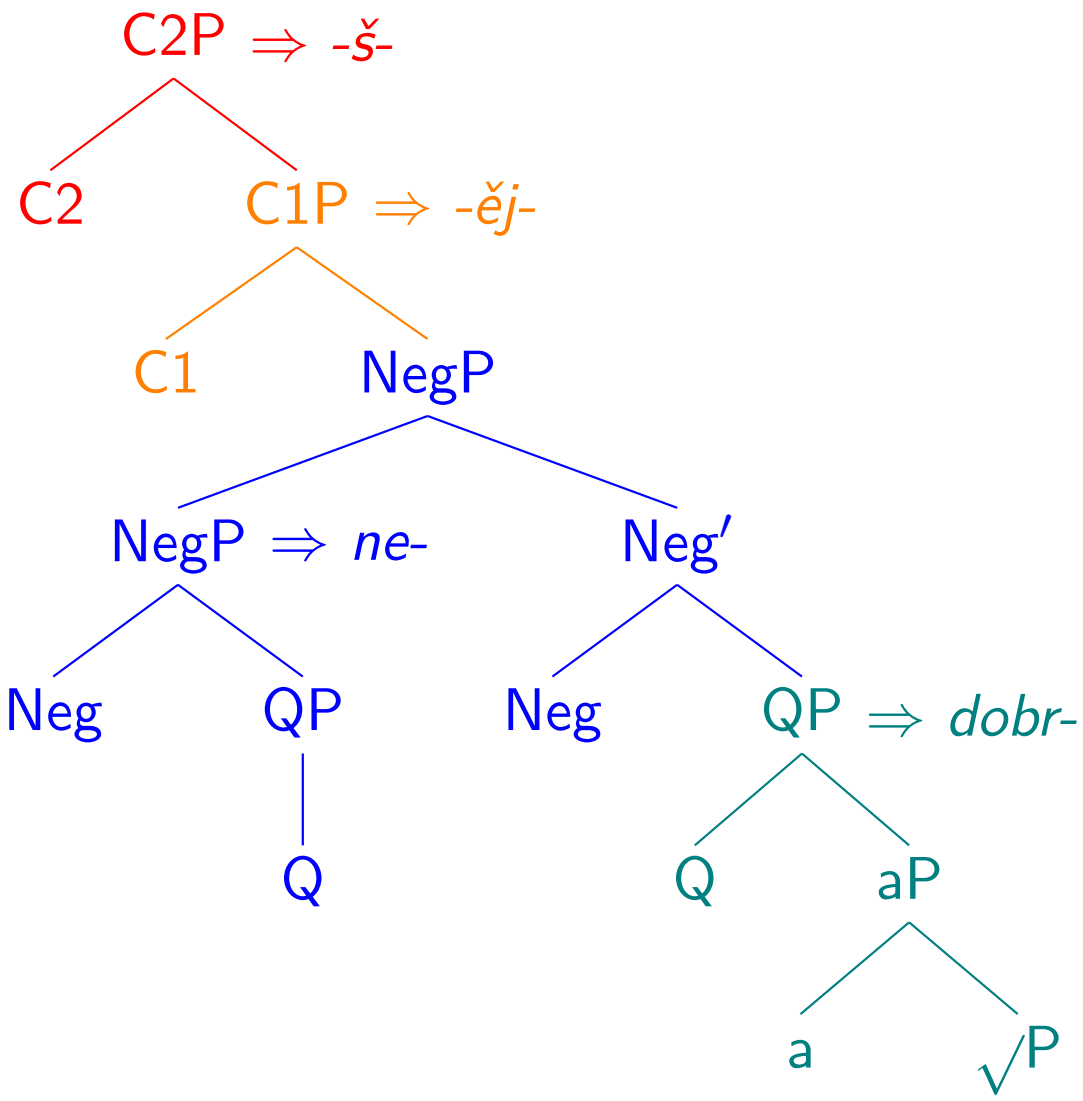
[un good er]

= [more [not good]]

= worse

= incompatible with a situation where A and B are equally bad

(46)



$<_{\text{LEP}}$ /lep/, [$_{\text{C1P}}$ C1 DOBR]] >

Another actual case

(47) Czech

POS	CMPR	
snadn-ý	snaz-š-í	‘easy’
ne-snadn-ý	*ne-snaz-š-í	‘difficult’
ne-snadn-ý	ne-snadn-ej-š-í	‘difficult’

(48) German

POS	CMPR	
gut	besser	‘good’
ungut	*unbesser	‘bad’
ungut	unguter	‘bad’

A twist

(49)

POS	CMPR	
mal-ý	men-š-í	‘small’
ne-mal-ý	ne-men-š-í	‘not small, big’
ne-mal-ý	*ne-mal-š-í	

A twist

(49)

POS	CMPR	
mal-ý	men-š-í	‘small’
ne-mal-ý	ne-men-š-í	‘not small, big’
ne-mal-ý	*ne-mal-š-í	

- the suppletion is unexpected
- the meaning is different

A twist

(49)

POS	CMPR	
mal-ý	men-š-í	‘small’
ne-mal-ý	ne-men-š-í	‘not small, big’
ne-mal-ý	*ne-mal-š-í	

- the suppletion is unexpected
- the meaning is different

ne-men-š-í

= [not [more small]]

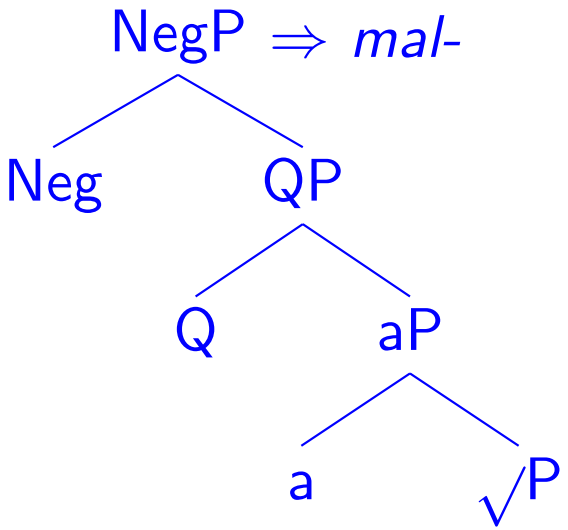
= not smaller

= compatible with a situation where A and B are equally big

Negative adjectives spell out a Neg feature

mal-ý 'small'

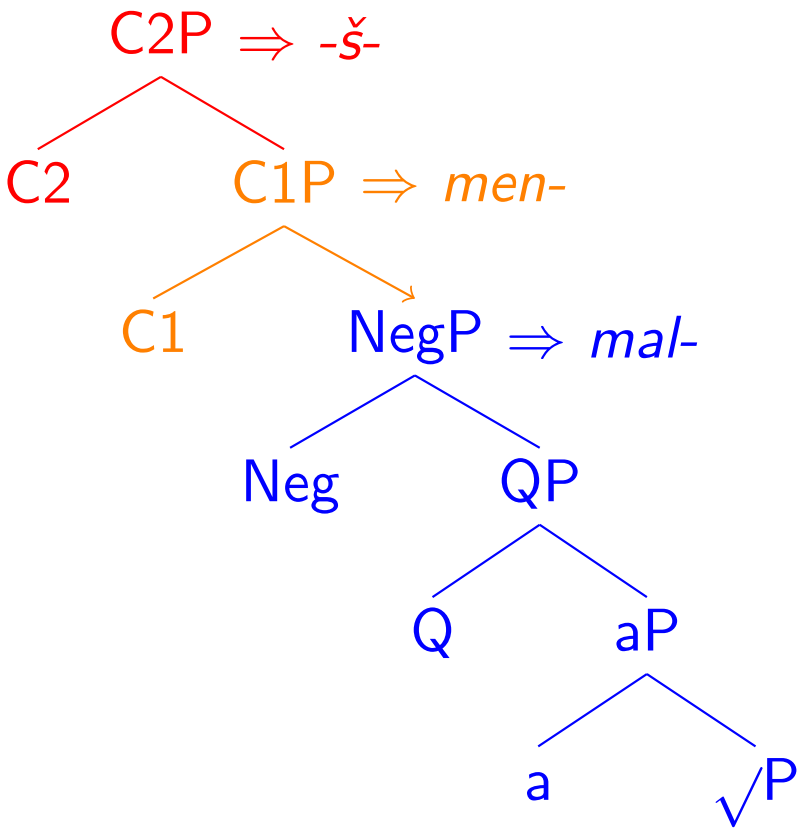
(50)



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

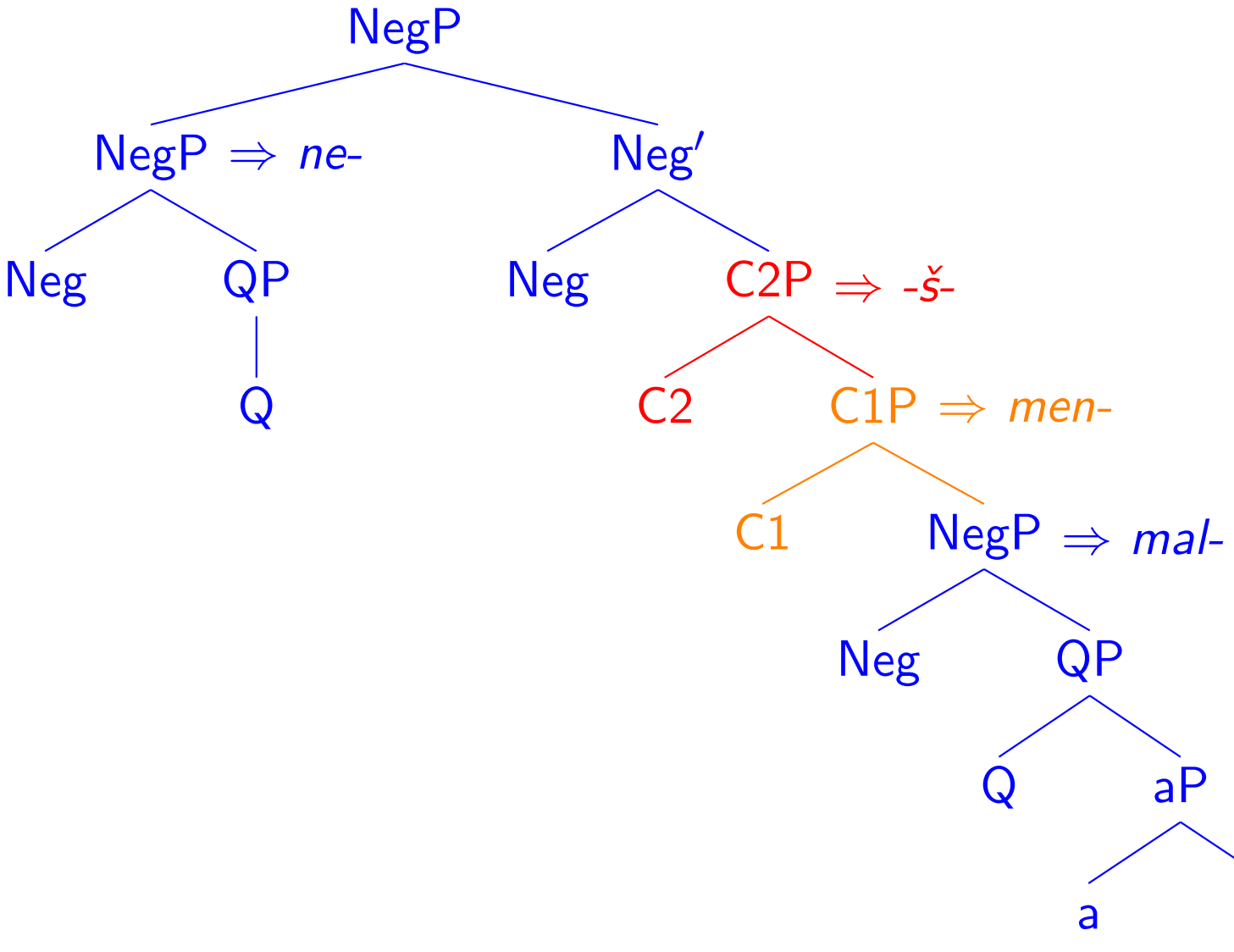
men-š-í ‘smaller’

(51)



<$_{\text{MEN}}$ /men-/, [$_{\text{C1P}}$ C1 MAL]] >
<$_{\check{\text{S}}}$ /-š-/, [$_{\text{C2P}}$ C2] >

(52)


NegP
NegP ⇒ ne-
Neg′
Neg
QP
Neg
C2P ⇒ -š-
Q
C2
C1P ⇒ men-
C1
NegP ⇒ mal-
Neg
QP
Q
aP
a
√P

- because the low Neg position is already taken up by *men/mal*, the *ne*-prefix has to take scope in a higher position
- (52) has the bracketing [NOT [MORE [small]]]
- this bracketing accounts for the meaning of *ne-men-š-í* 'not smaller' (A and B can be equally big)
- it also accounts for the presence of root suppletion

Outline

1 The Containment Hypothesis
2 Czech morphology
3 The internal structure of the comparative
4 Suppletion
5 Suppletion meets Negation
6 Conclusions

Conclusions

- Bobaljik's Cmpr needs to be split up into two distinct heads/features, C1 and C2
- Czech morphology provides evidence for two distinct exponents corresponding to these two features: *ěj*+*š*
- we developed an analysis of root suppletion that accounts for the systematic absence *ěj* with suppletive and shortened roots in Czech comparatives, which also allows for lexically determined cases of *ěj*-absence
- the interaction of negation with suppletion provides support for our analysis

Thank you!

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References

Bobaljik, Jonathan. 2012. *Universals in comparative morphology*. Cambridge, MA: MIT Press.

Caha, Pavel. 2016. Explaining Bobaljik's root suppletion generalization as an instance of the adjacency condition (and beyond). Ms., Masarykova Univerzita, Brno.

Starke, Michal. 2011. Towards an elegant solution to language variation: Variation reduces to the size of lexically stored trees. Ms., Tromsø University.