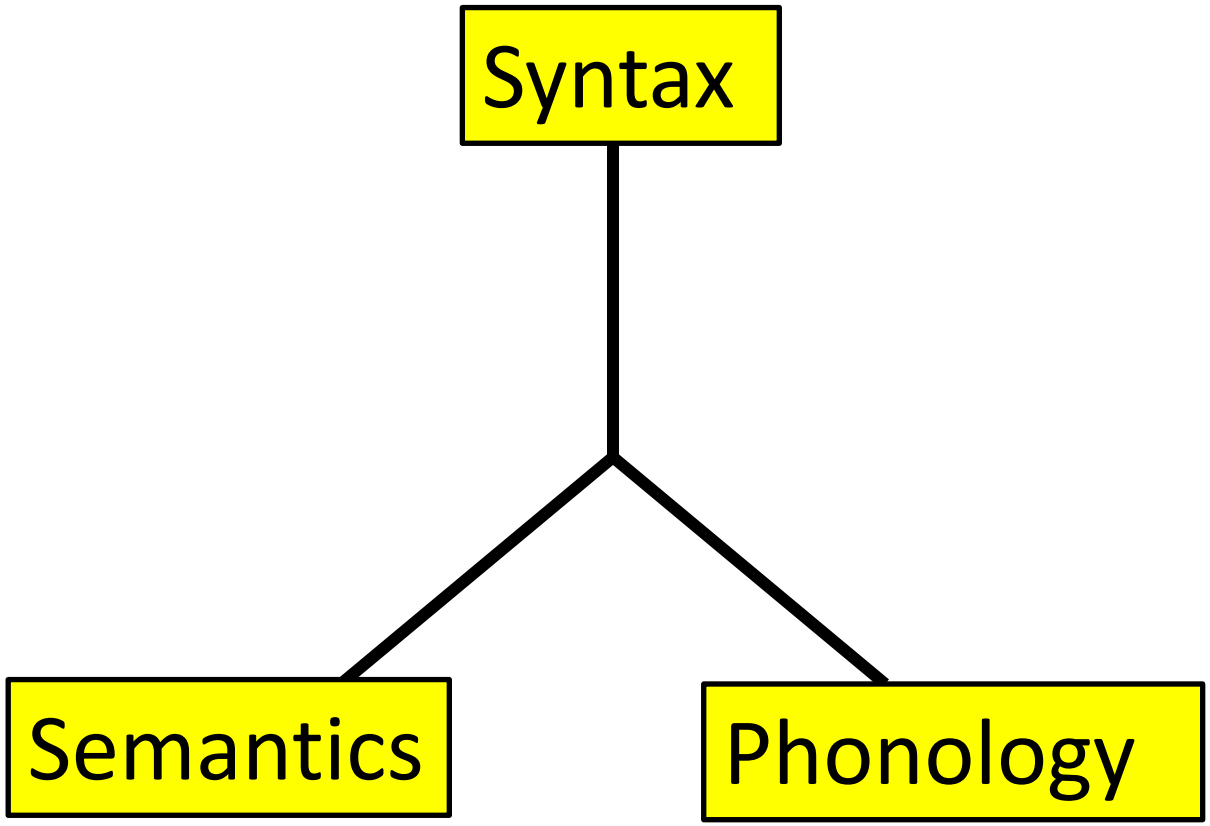
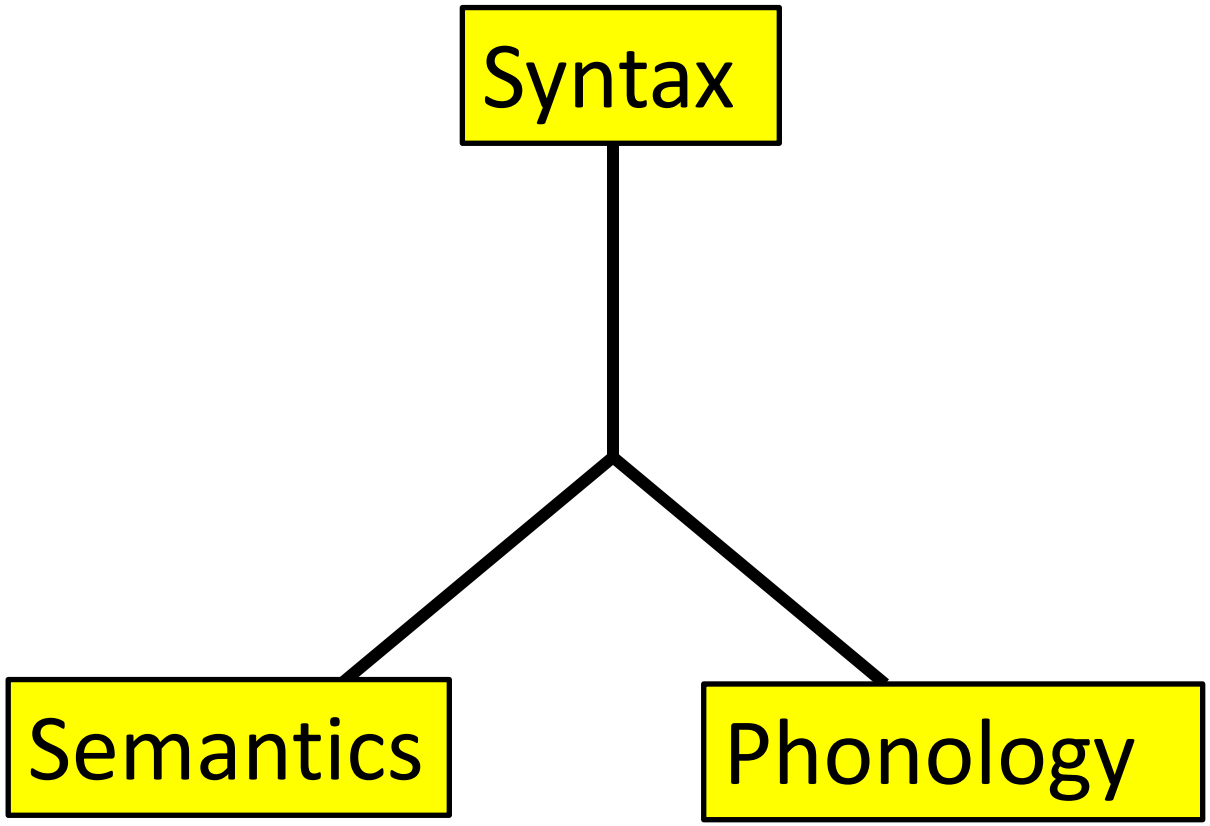
Allomorphy

an introduction to the phonology-morphology interface

3rd Class: the architecture of grammar



The Inverted Y architecture



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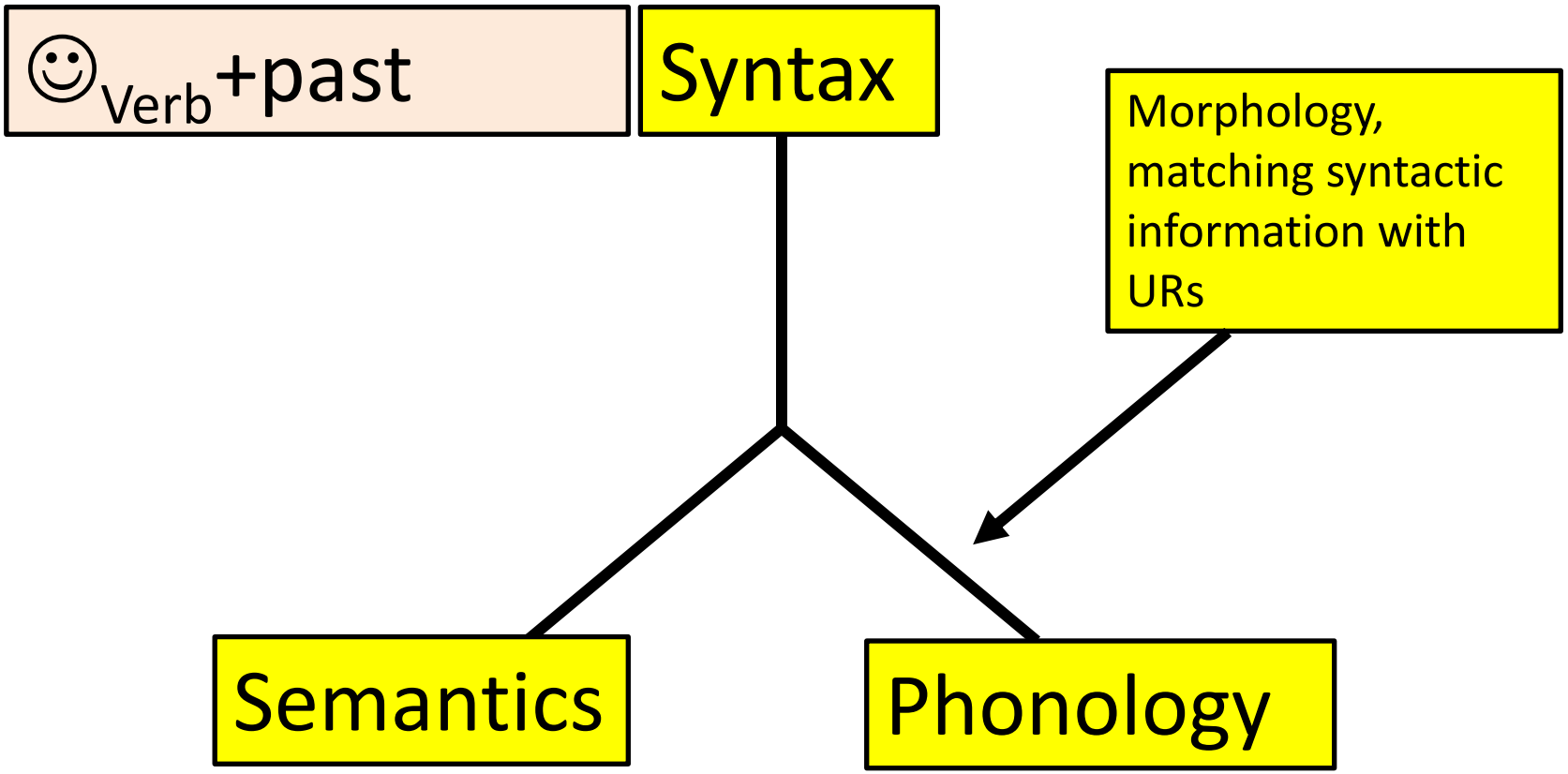

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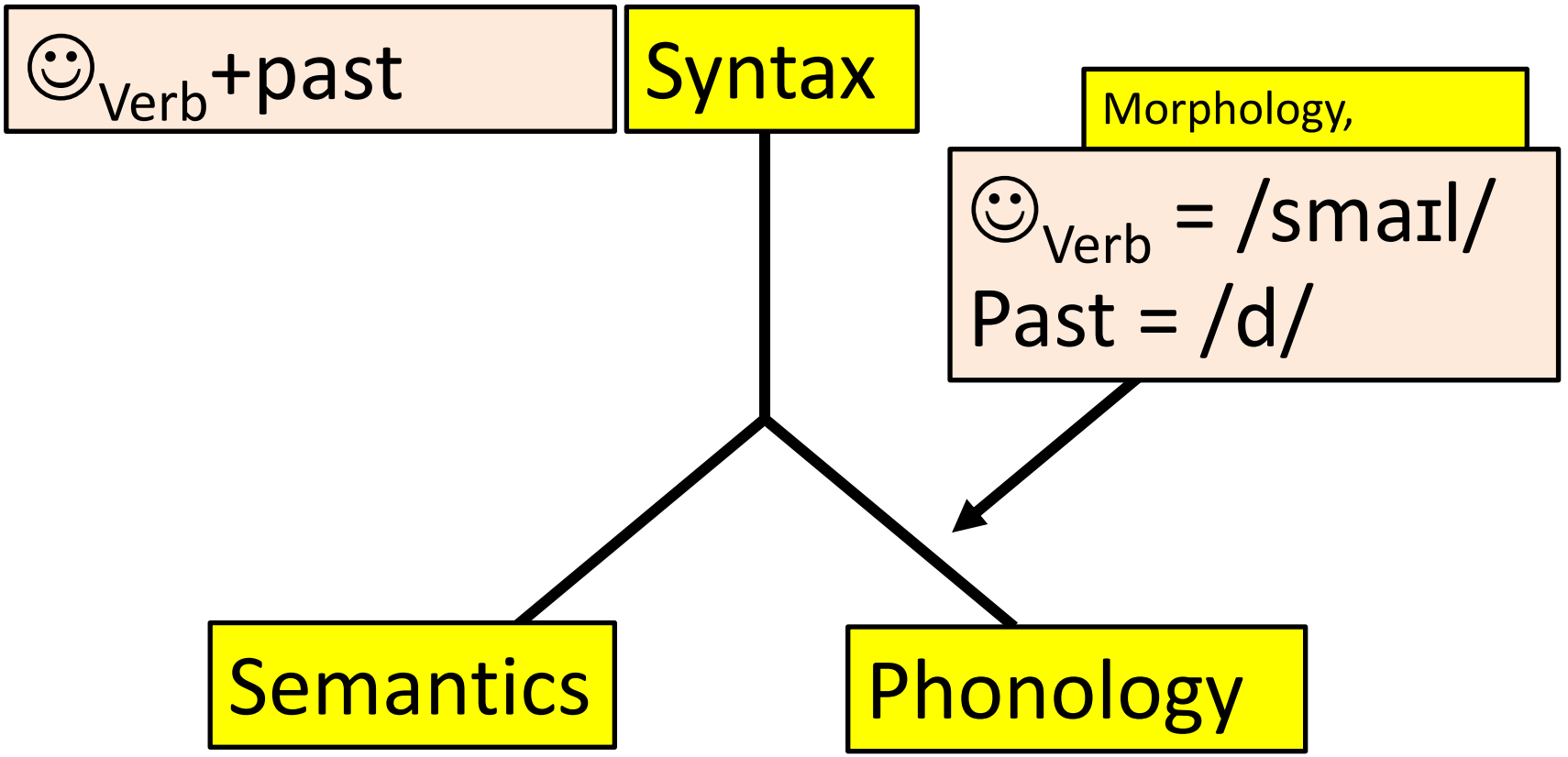

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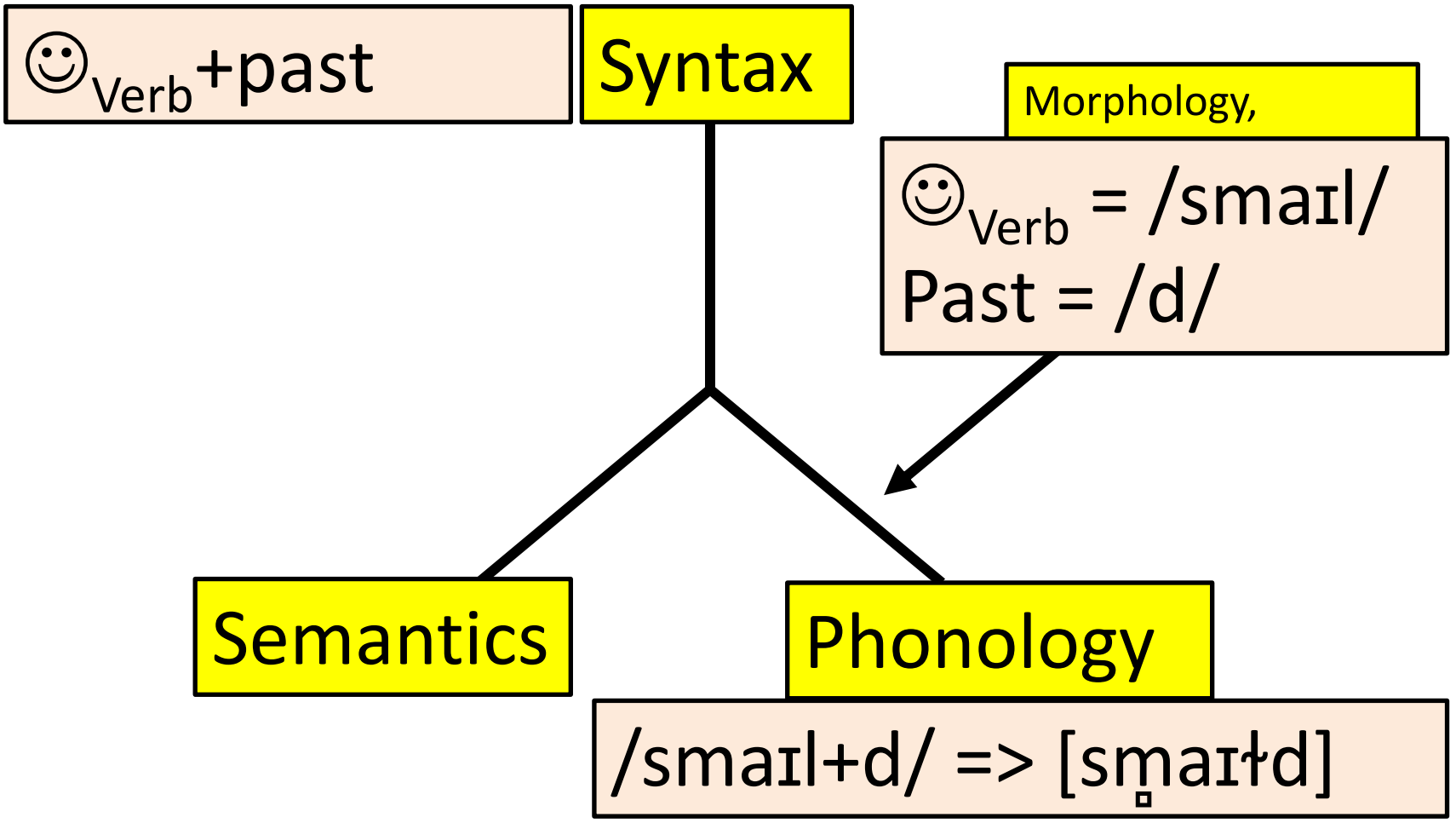

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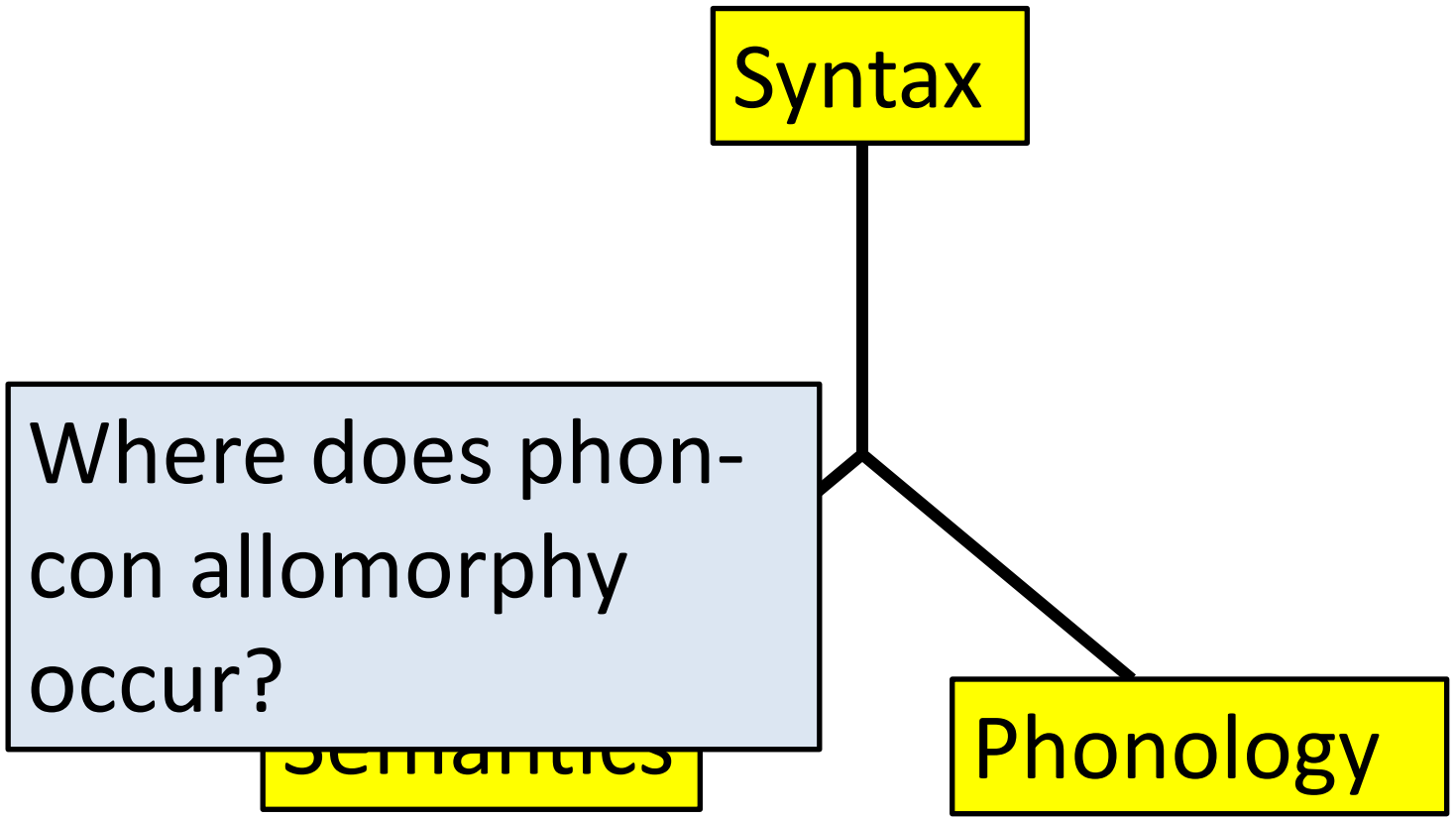
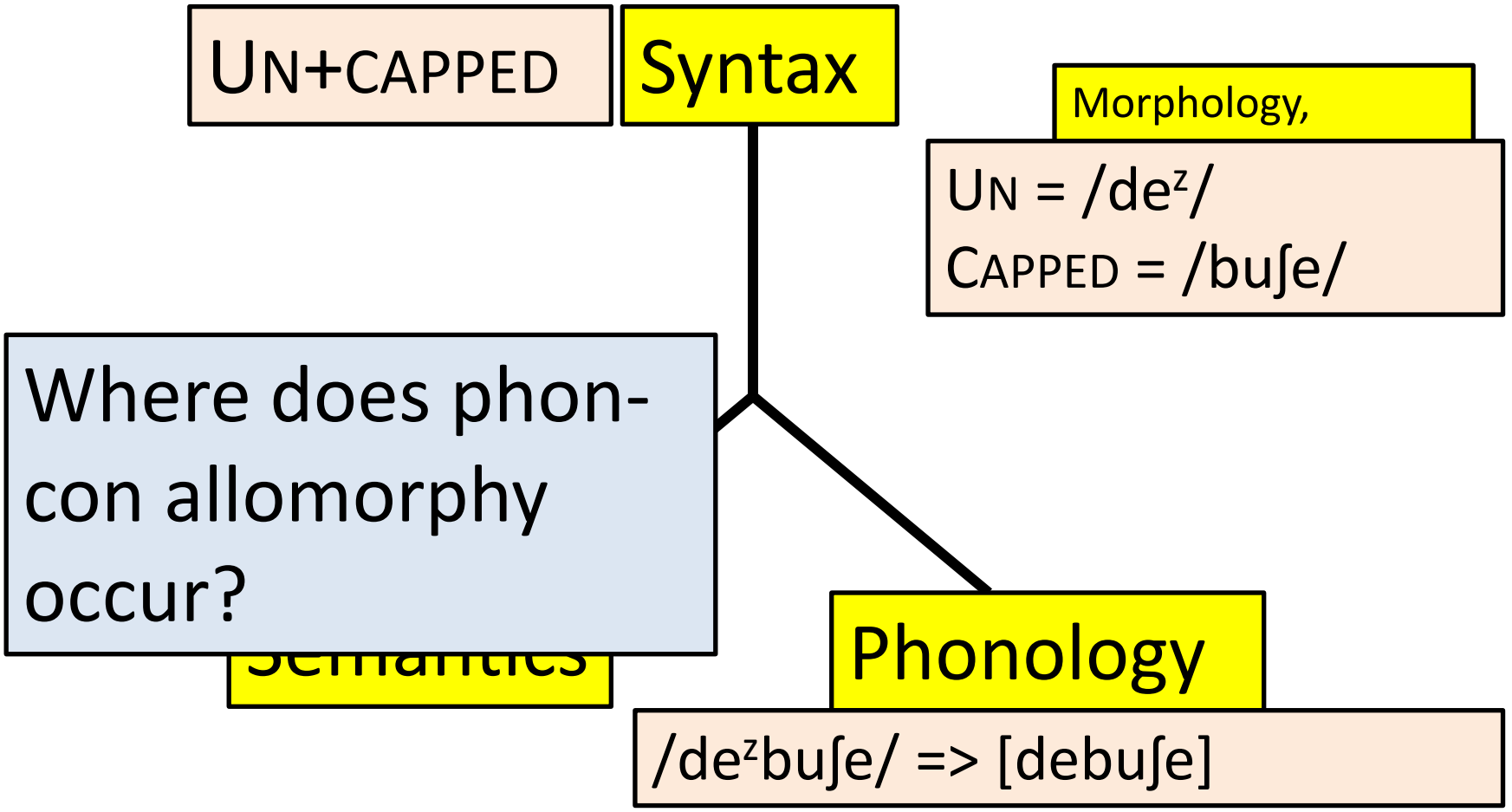


Reminder

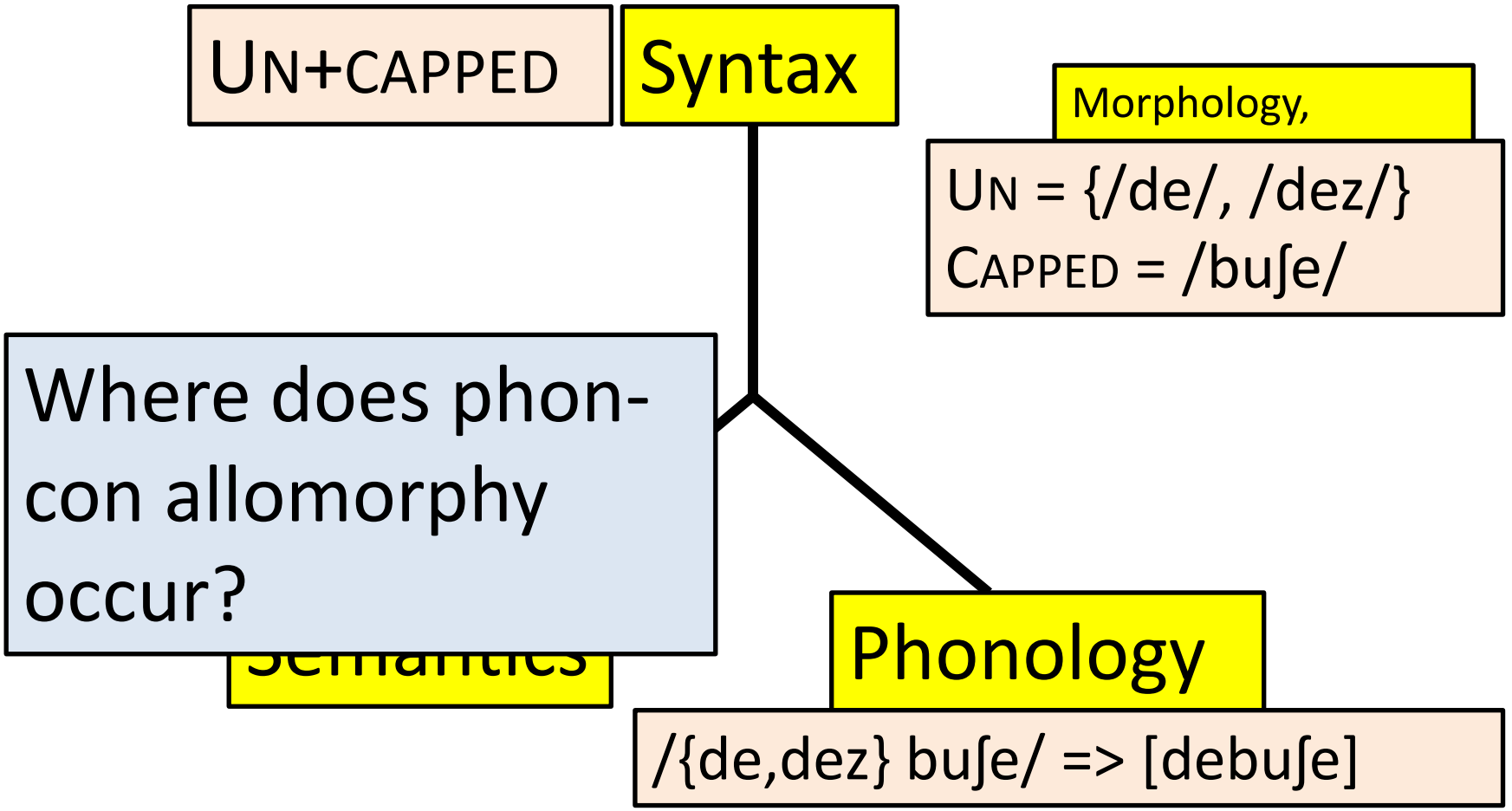
Recall the simple case of allomorphy from French

[de-buʃe]	but	[dez-okype]
‘uncappped’		‘freed’

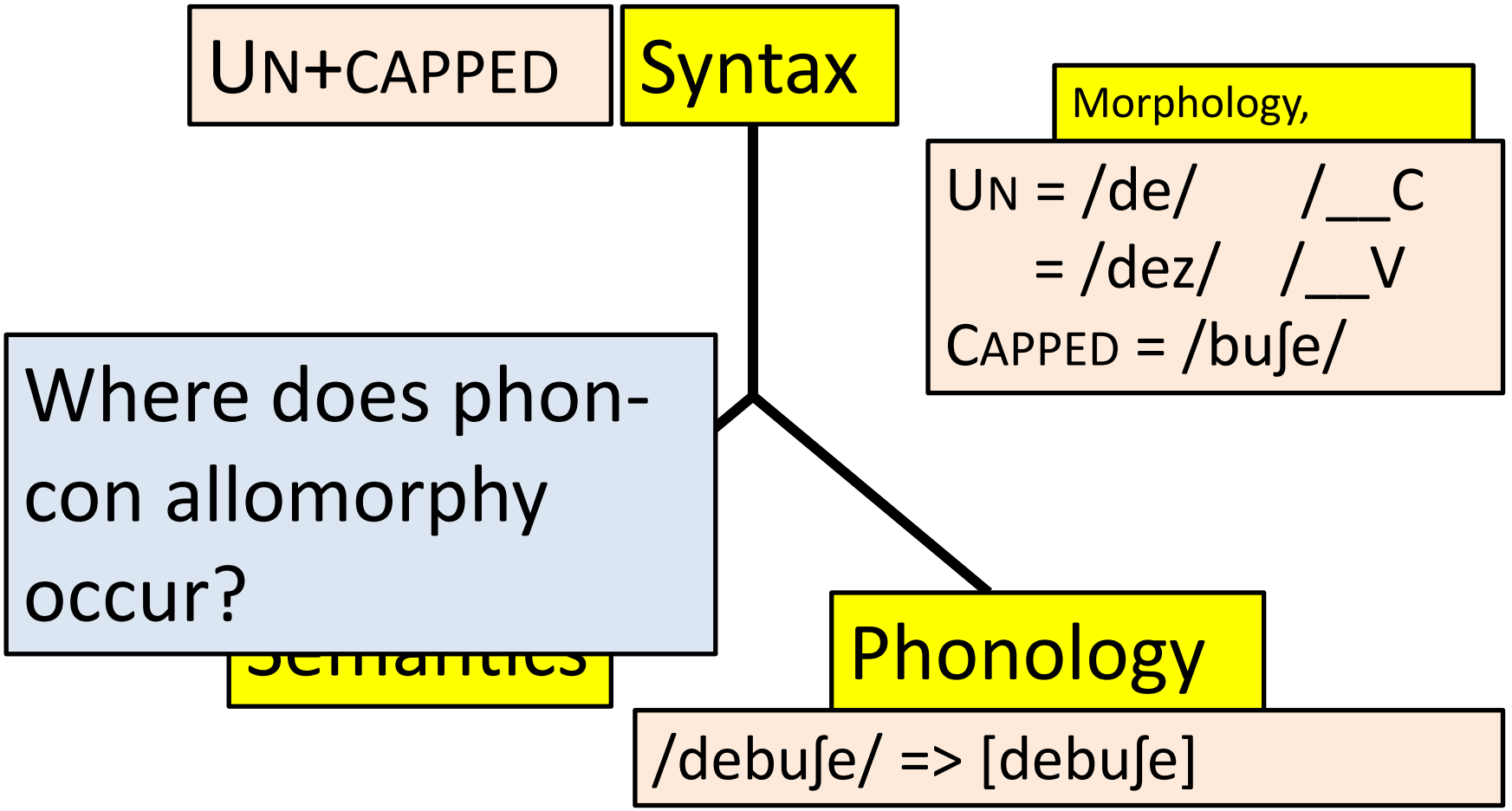
No allomorph selection in this case!



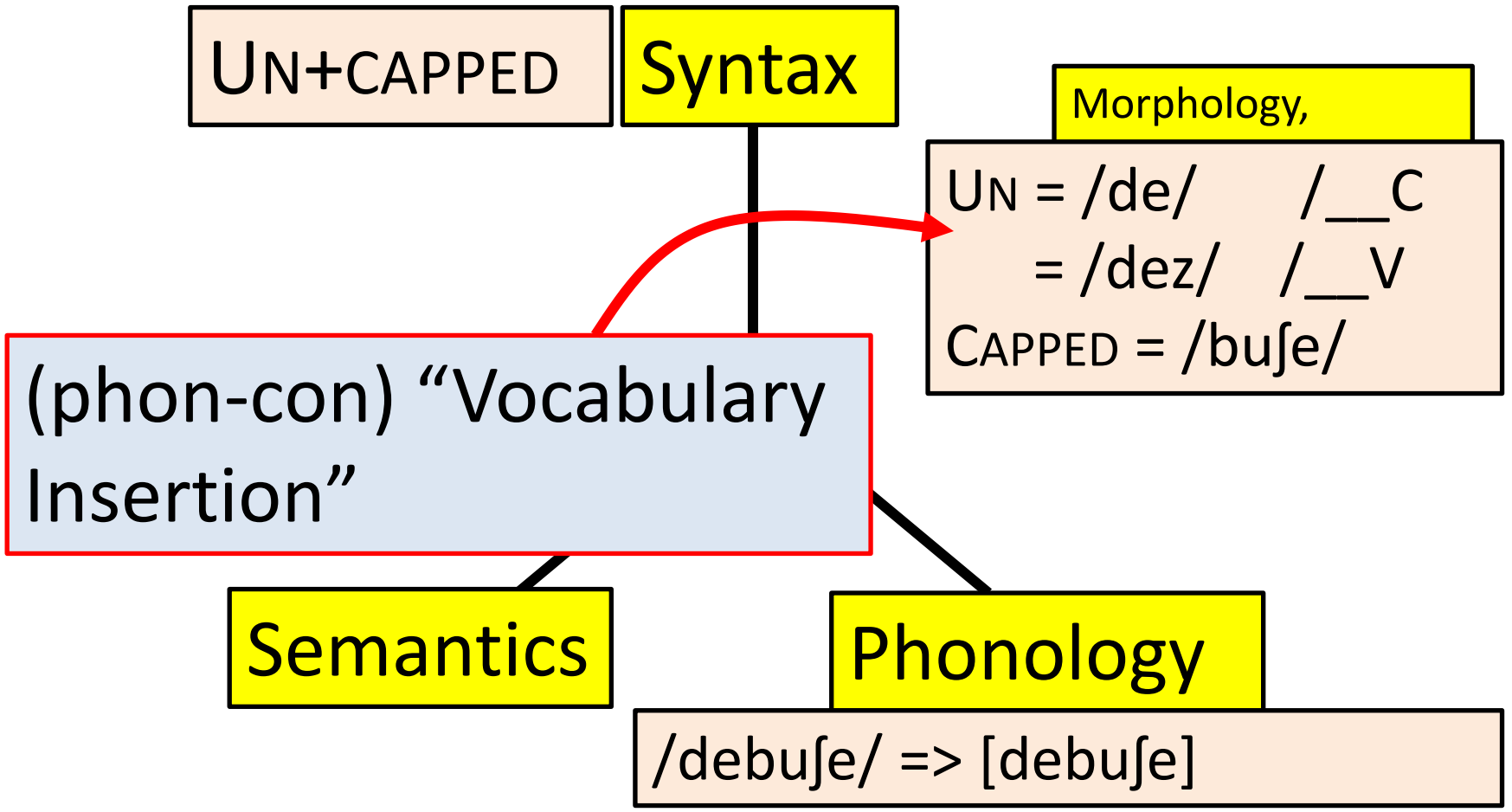
In the phonology?



In the morphology ("spell-out")?



Phon-con Vocabulary Insertion



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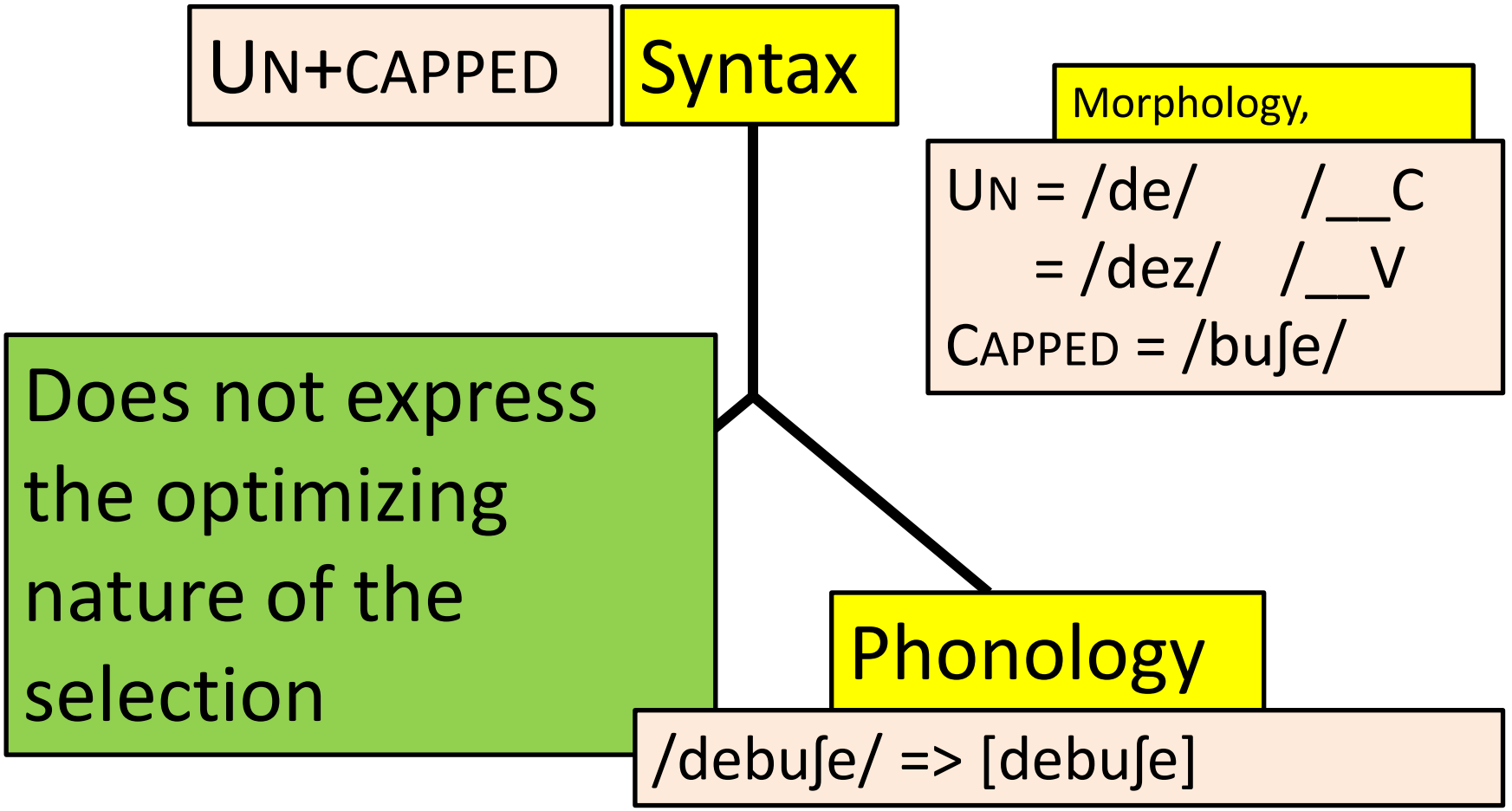

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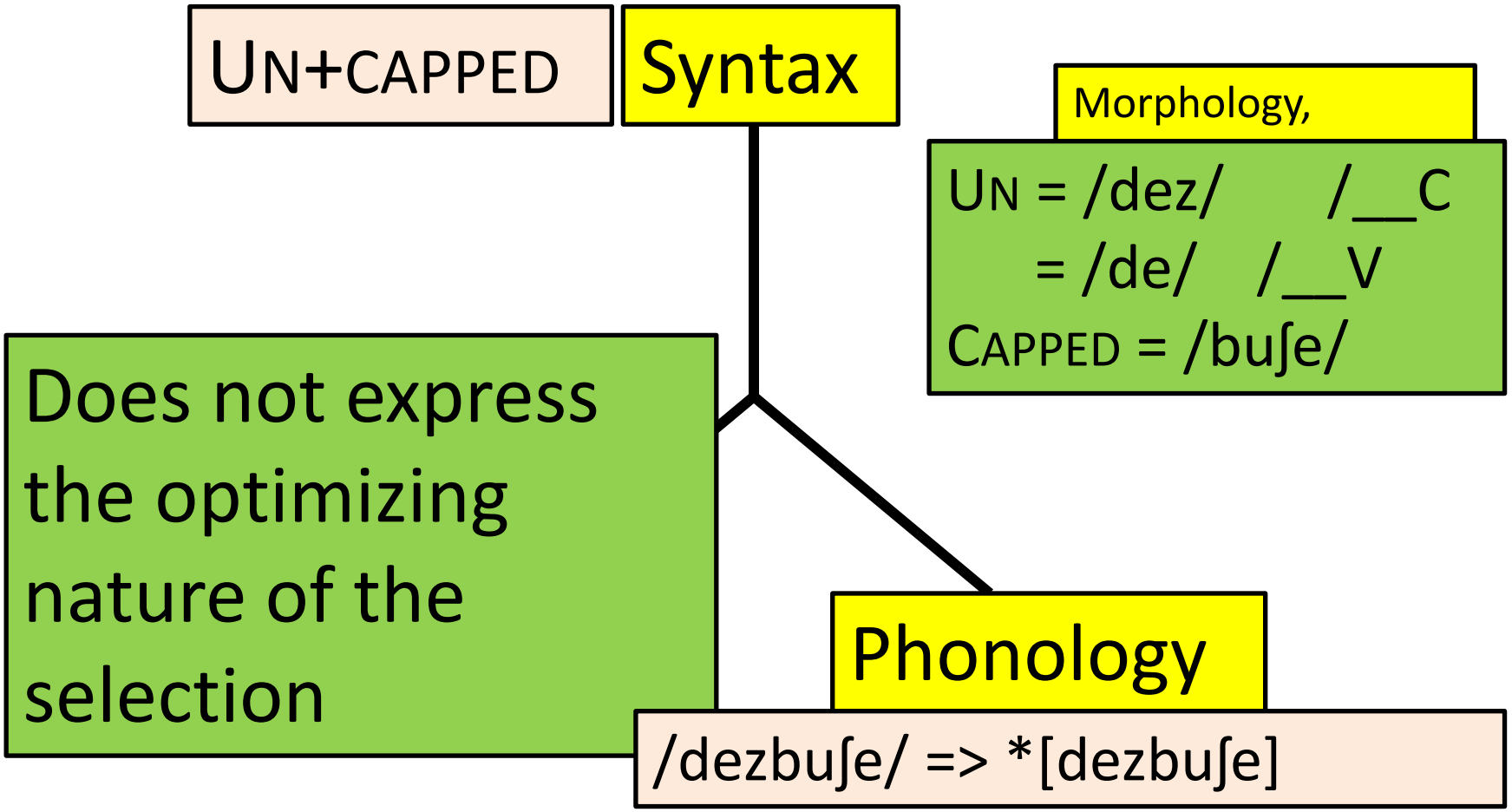
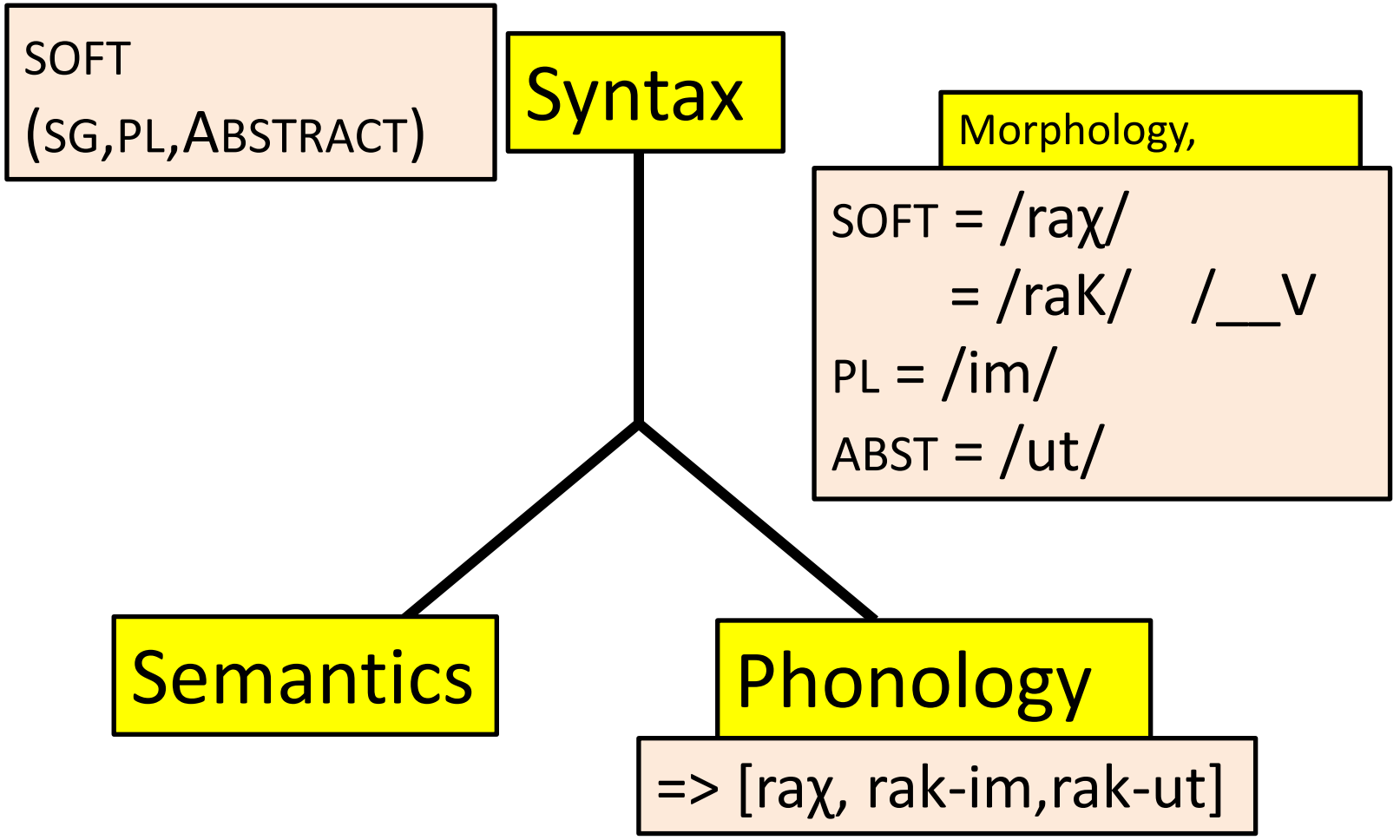


Phon-con Vocabulary Insertion

- Proponents of this view recruit suposedly non-optimizing cases, e.g. Modern Hebrew /ra**χ**, ra**k**-im, ra**k**-ut/ ‘soft (sg,pl), softness’

Phon-con Vocabulary Insertion



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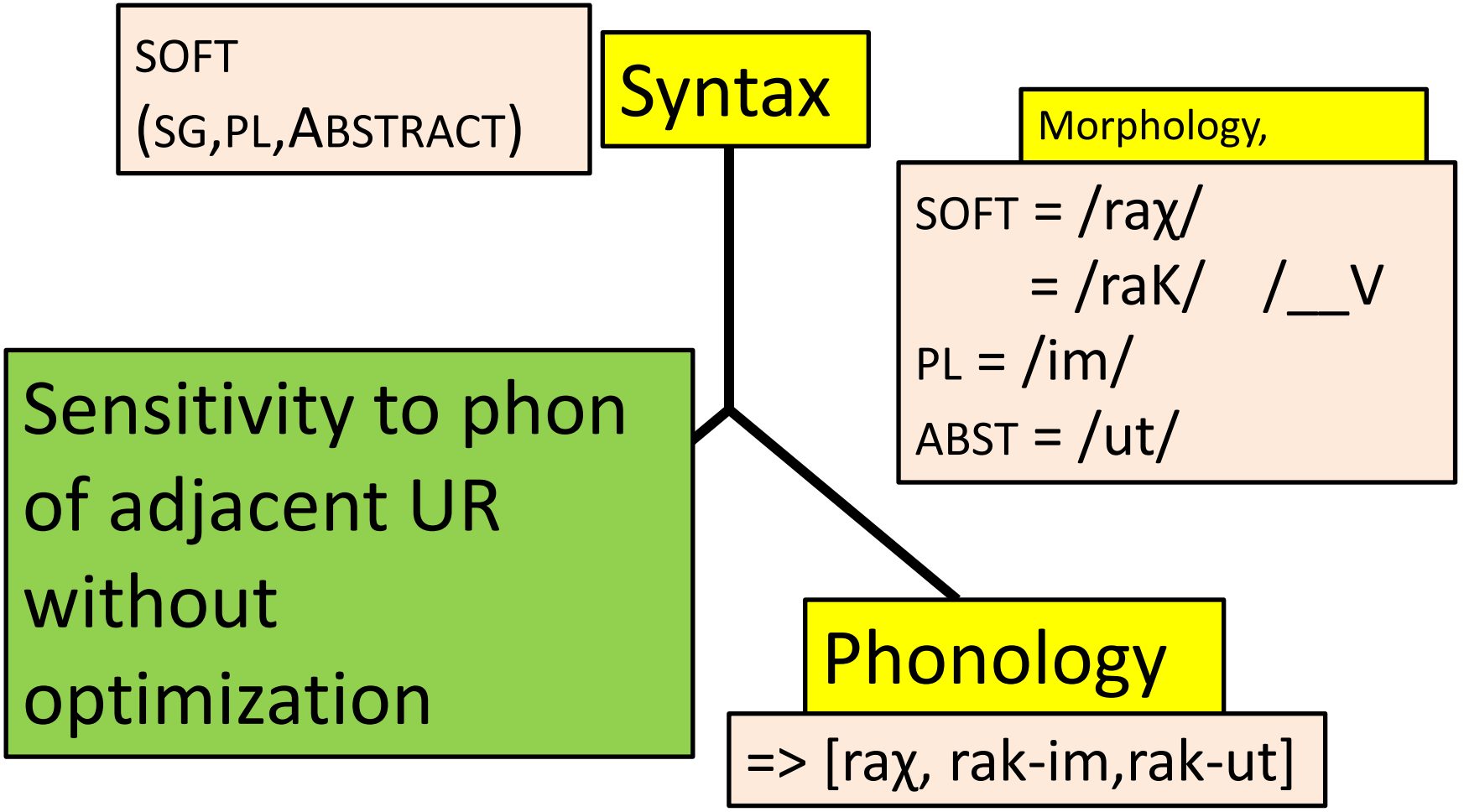

Phon-con Vocabulary Insertion

An argument from **economy** (again): given that

- in some cases, phon-con allomoprhy is not allomorphy,

and

- in other cases , phon-con is not optimizing

and

- If we want phon-con selection to be done in the phonology we derive an undesirably strong phonology, as opposed to a blind filter,

Then why not spare us all the trouble and simply assume that all real phon-con allomorphy is simply phon-con vocabulary insertion.

Phon-con Vocabulary Insertion

In other words, the fact that some processes appear to be optimizing does not mean that the purported optimization is really a synchronic process and forms part of the grammar.

Phon-con Vocabulary Insertion

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Recall we are asking what the speaker *knows*, not what s/he *needs to* know or what it would be neat if they s/he knew.

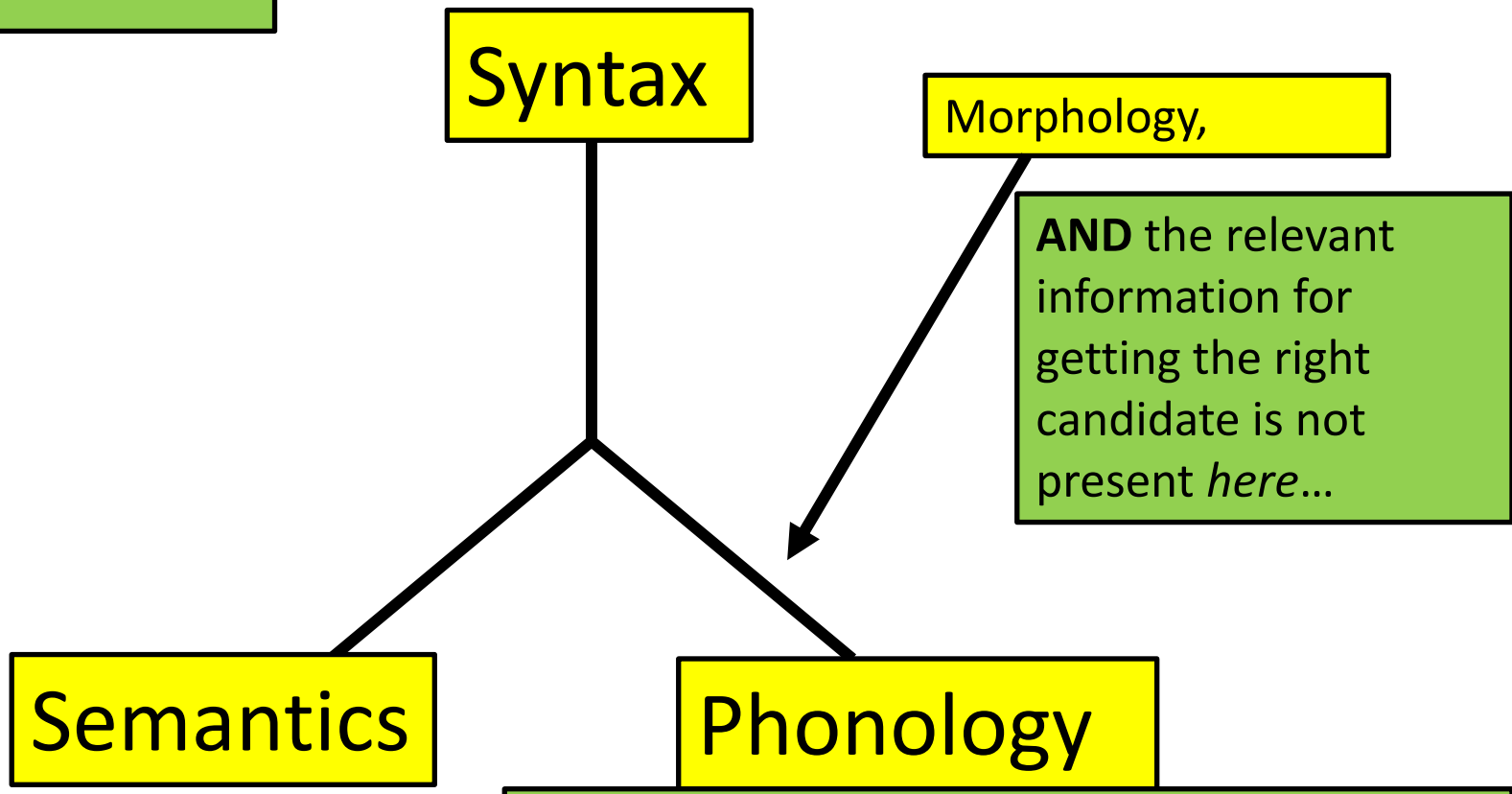
Phon-con Vocabulary Insertion

Given the inverted Y architecture, any approach that denies allomorph selection in the phonology would be falsified if

Information that is clearly **not** present at the stage of vocabulary insertion is shown to be the condition in a case of uncontroversial allomorph selection.

The Inverted Y architecture

If there are clearly **two URs**



A Case Study: Surmiran (Anderson 2008)

1sg	(ia) cant	[kant]
2sg	(te) cantas	[ˈkantəs]
3sg	(el) canta	[ˈkantə]
1pl	(nous) cantagn	[kənˈtaɲ]
2pl	(vous) cantez	[kənˈtɛts]
3pl	(els) cantan	[ˈkantən]

A Case Study: Surmiran

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3pl	(els) cantan	['kantən]

Two realizations: stressed [kánt]
unstressed [kənt]

A Case Study: Surmiran

	‘praise’ [lód], [lʊd]	‘sleep’ [dór], [dʊr]	‘get up’ [lév], [ləv]	‘finish’ [fɛ́t(t)], [fɪt(t)]
1sg	lód	dór	lév	fɛ́t
2sg	lódəs	dórəs	lévəs	fɛ́ttəs
3sg	lóda	dórə	lévə	fɛ́ttə
1pl	lʊdáɲ	dʊráɲ	ləváɲ	fɪttáɲ
2pl	lʊdɛ́ʦ	dʊrɛ́ʦ	ləvɛ́ʦ	fɪttɛ́ʦ
3pl	lódən	dórən	lévən	fɛ́ttən

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1pl	lʊdáɲ	dʊráɲ	ləváɲ	fɪttáɲ
2pl	lʊdɛ́ʦ	dʊrɛ́ʦ	ləvɛ́ʦ	fɪttɛ́ʦ
3pl				

Anderson shows that the choice of the stem is not based on morphological information, but depends only on stress

A Case Study: Surmiran

Stress is completely regular in this language:

it falls on the penult if the rhyme of the final syllable consists of [ə], possibly followed by [r], [l], [n] or [s]: [kántən], [kántə]

And on the final vowel if it is not [ə], or if it is [ə] followed by some other consonant: [kəntéʦ]

A Case Study: Surmiran

Stress is completely regular in this language:

Therefore, stress must be an output of the phonological computation: it is *not* in the UR that is fed to the phonology.

A Case Study: Surmiran

Vowels to be found in stressed syllables:

[i,u,a,o,ɔ,e,ɛ]+diphthongs

Vowels to be found in **un**stressed syllables:

[ɪ,ʊ,ə]+(rarely)[ɛ,ɔ]

A Case Study: Surmiran

It is therefore tempting to analyse all of the alternations as underlyingly the same. For instance:

UR	/kant-a/	/kant-ɛʦ/
Stress assignment	/kánta/	/kantɛ́ʦ/
Reduction	[kántə]	[kəntɛ́ʦ]

A Case Study: Surmiran

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If this is true, then there is no allomorphy at all.

A Case Study: Surmiran

It is pretty sure, on the basis of comparative studies, that this is certainly the historical reason for the reduction.

How-ʔever,

Anderson shows convincingly that this cannot be a synchronic analysis:

A Case Study: Surmiran

It is impossible to predict the unstressed vowel from the stressed one, or vice-versa:

Alternation	Infinitive	3sg Pres. Indic.	gloss
[ŭ]/[a]	v[ʊ]rdar	v̲arda	'watch'
[ŭ]/[ɔ]	d[ʊ]rmeir	d̲orma	'sleep'
[ŭ]/[o]	cr[ʊ]dar	cr̲oda	'fall'
[ŭ]/[o:]	p[ʊ]ssar	pô̲ssa	'rest'
[ŭ]/[oi̯]	l[ʊ]ier	l̲oia	'arrange'

A Case Study: Surmiran

It is impossible to predict the unstressed vowel from the stressed one, or vice-versa:

Alternation	Infinitive	3sg Pres. Indic	gloss
[ĭ]/[ˈa]	(sa) tgil[ɪ]ttar	tgil̲atta	'sit down (scornfully, as of a cat)'
[ĭ]/[ˈa̯i̯]	spisg[ɪ]ntar	spisgi̲ainta	'feed'
[ĭ]/[ˈɛ]	p[ɪ]glier	pe̲glia	'take'
[ĭ]/[ˈe]	f[ɪ]mar	fe̲ma	'smoke'
[ĭ]/[ˈe̯i̯]	anv[ɪ]dar	anve̲ida	'invite'
[ĭ]/[ˈi]	tg[ɪ]rar	tgi̲ra	'guard'

A Case Study: Surmiran

Alternation	Infinitive	3sg Pres. Indic.	gloss
[ə]/['a]	l[ə]var	l̲a̲va	'wash'
[ə]/['a͡i]	[ə]ntrar	a̲intra	'enter'
[ə]/['ɛ]	t[ə]dlar	t̲e̲dla	'listen'
[ə]/['e]	l[ə]var	l̲e̲va	'get up'
[ə]/['ɛ͡i]	p[ə]sar	pe̲i̲sa	'weigh'
[ə]/['e͡i]	antsch[ə]dar	antsche̲i̲da	'start yeast'
[ə]/['i]	surv[ə]gneir	survi̲gna	'receive'
[ə]/['o]	cl[ə]mar	clo̲ma	'call'

A Case Study: Surmiran

If so, for every verbal stem in Surmiran, the speaker must retain two stems.

1) the unstressed version
2) the stressed version

But stress is decided **in the phonology**…

A Case Study: Surmiran

If so, for every verbal stem in Surmiran, the speaker must retain two stems.

1) the unstressed version
2) the stressed version

But stress is decided **in the phonology**…

In consequence, **both stems** must be accessible to the phonological computation. The decision of which stem to take **cannot precede** the phonological computation

Anderson's analysis

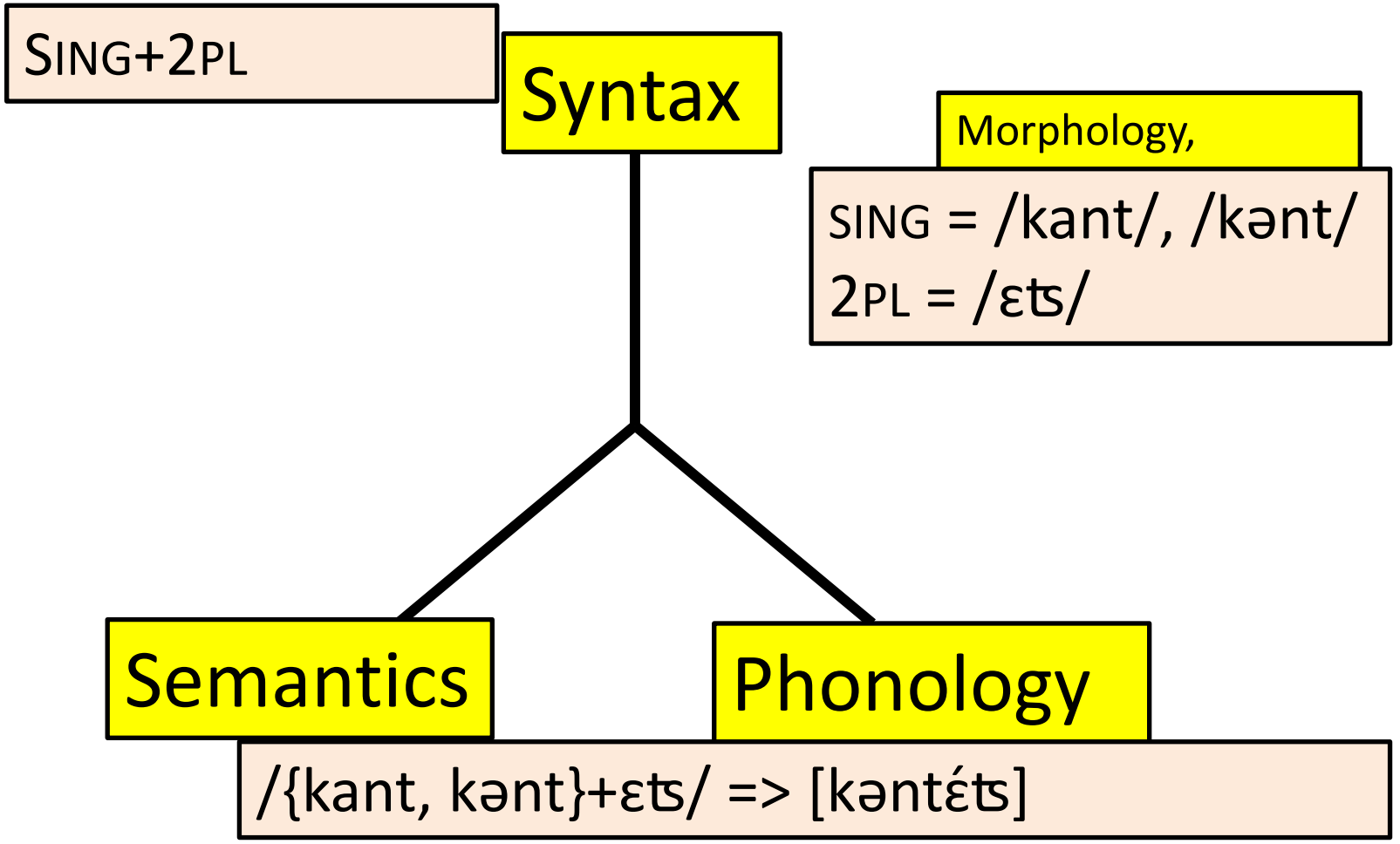
*$\acute{V}_{[lax]}$:

Do not stress [ɪ,ʊ,ə]

*$V_{[-lax]}$:

Punish non-lax vowels

Anderson's analysis in our architecture



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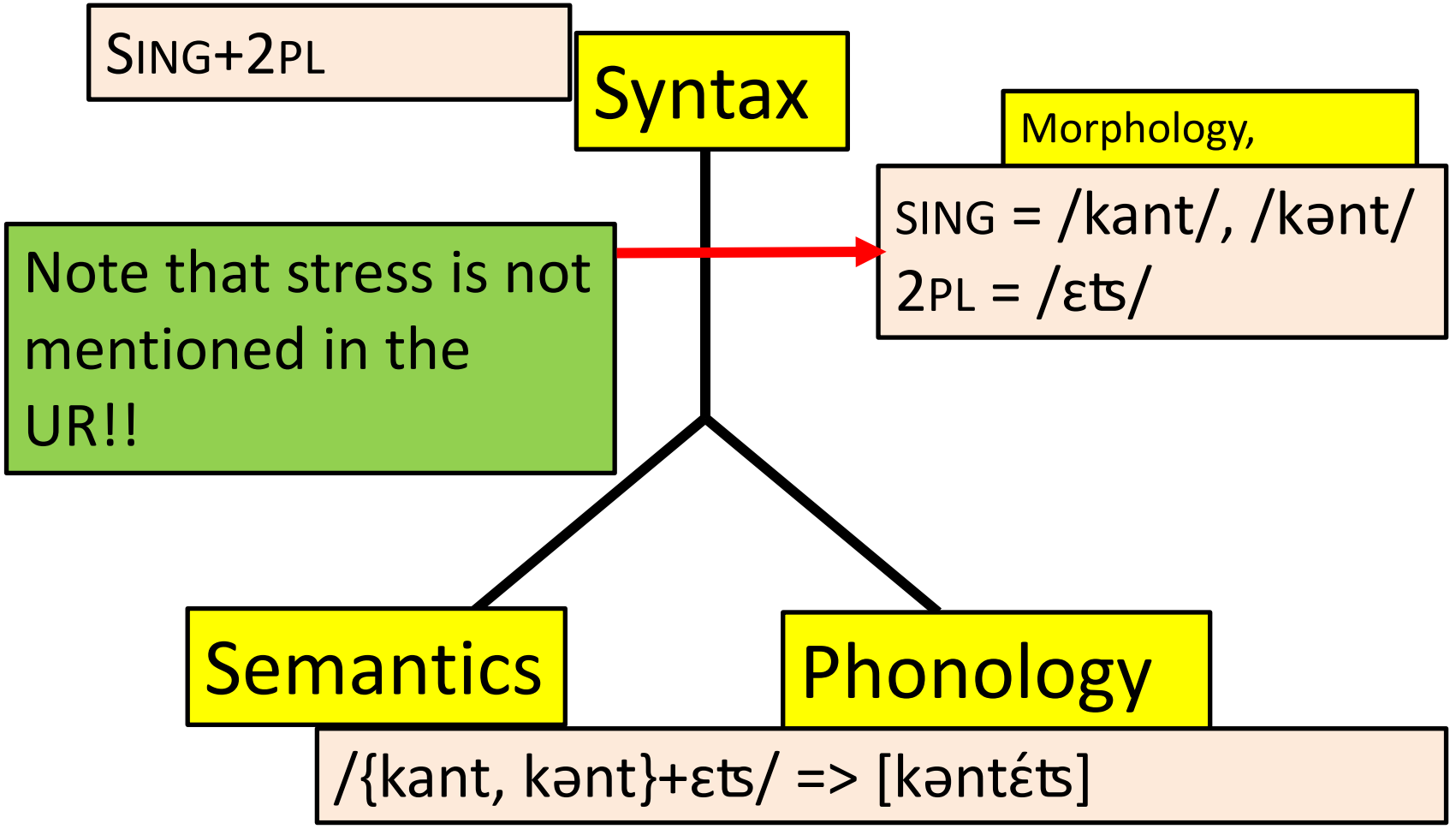

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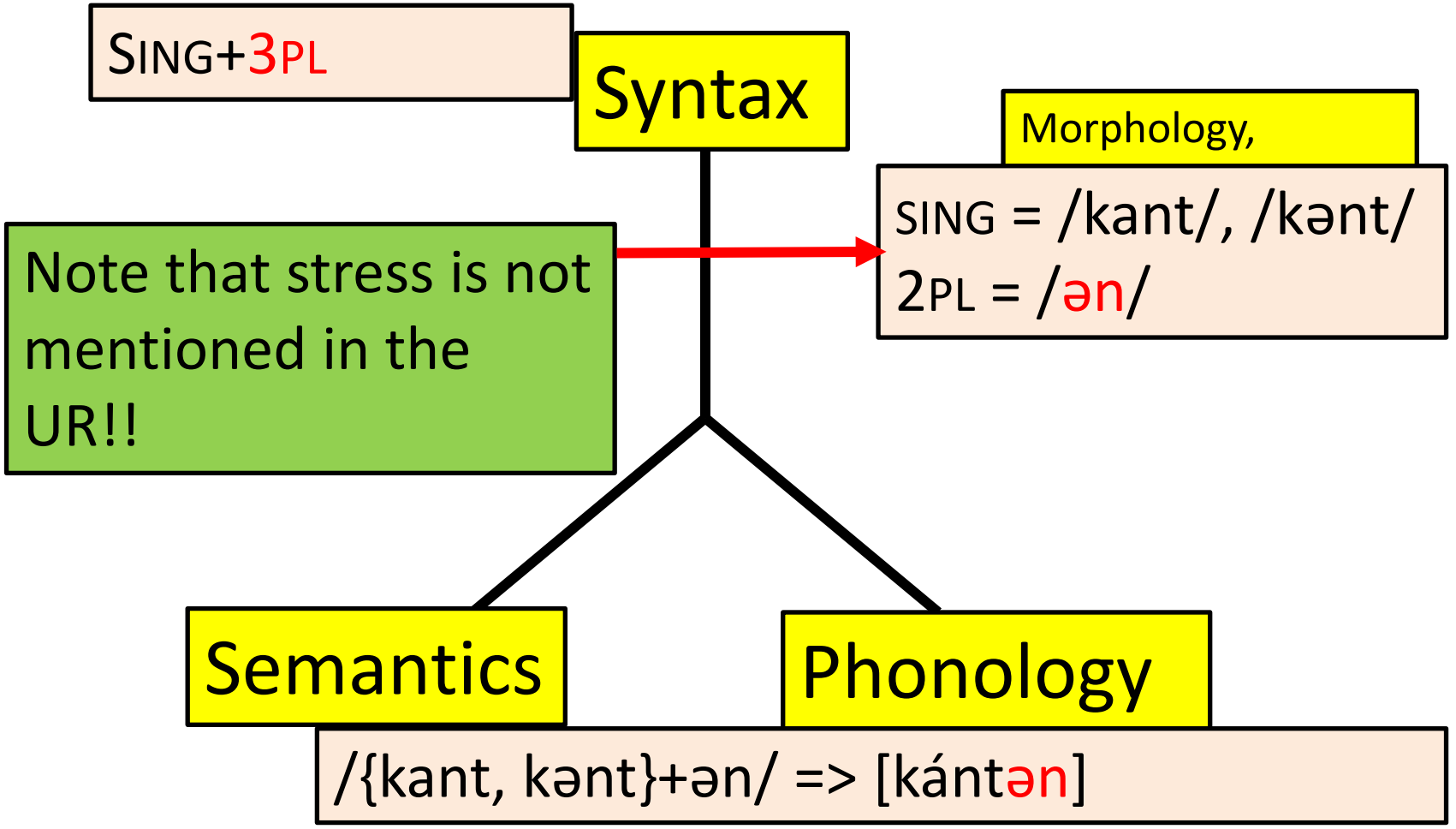


Anderson's analysis

a.

/{vʊrd,vard}-ar/	Stress	*ˈʊ,ˈɪ,ˈə ⋮ *ă,ĭ,ŭ
ˈvʊrdăr	!*	* ⋮ *
ˈvardăr	!*	⋮ *
☞ vŭrˈdar		⋮
vărˈdar		⋮ !*

Anderson's analysis

b.

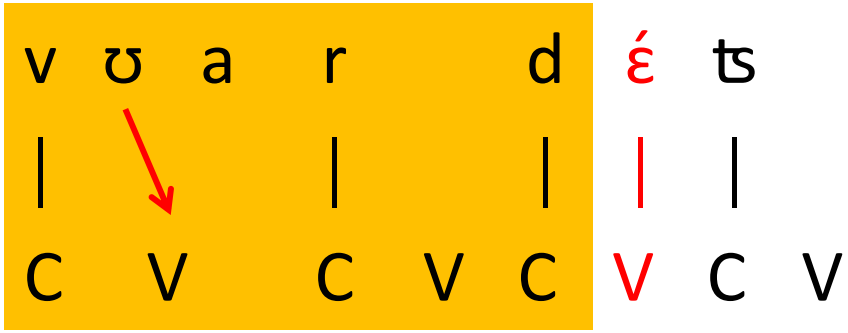
/{vʊrd,vard}-ə/	Stress	*ˈʊ,ˈɪ,ˈə	*ă,ĭ,ŭ
ˈvʊrdə̆		!*	
☞ ˈvardə̆			
vŭrˈdə	!*	*	
vărˈdə	!*	*	*

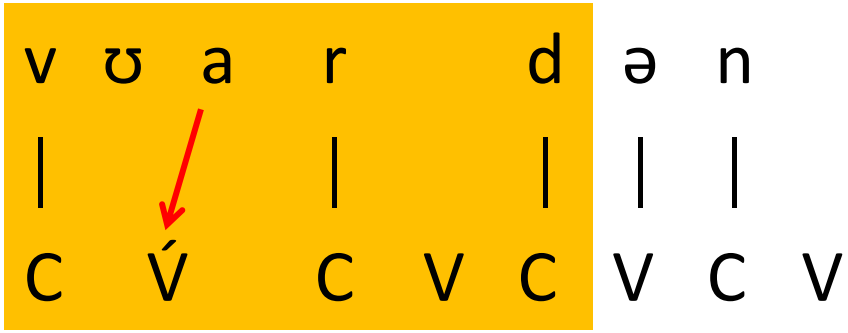
Autosegmental alternative with a single UR

v	ʊ	a		r		d	ɛ	ʦ
|				|		|	|	|
C		V		C	V	C	V	C	V

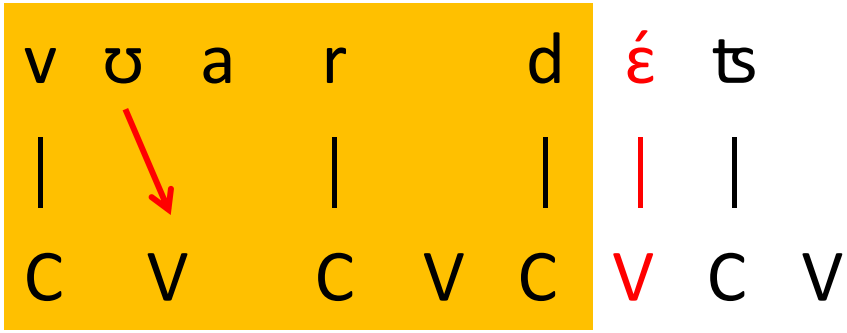
v	ʊ	a		r		d	ə	n
|				|		|	|	|
C		V		C	V	C	V	C	V

Autosegmental alternative with a single UR

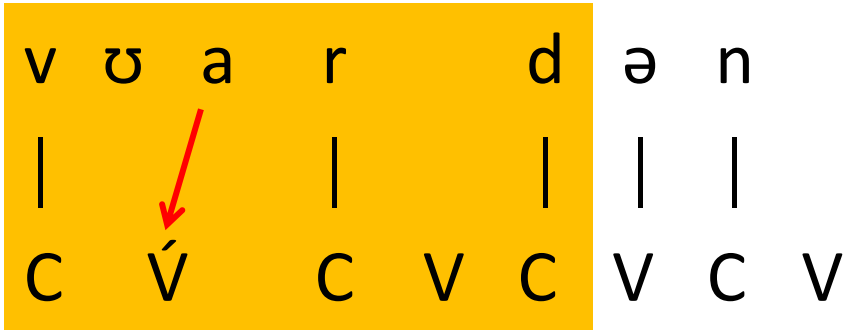




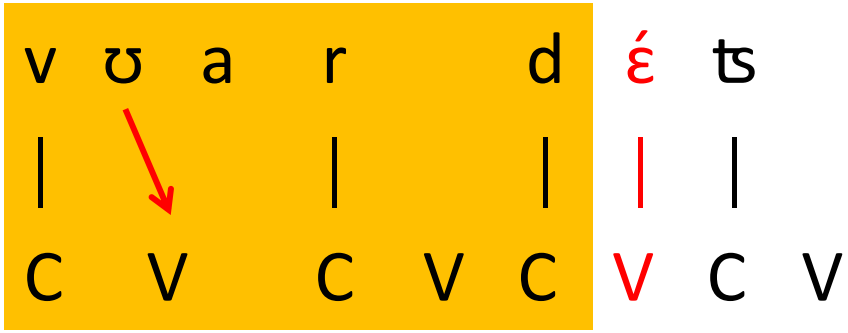
Autosegmental alternative with a single UR



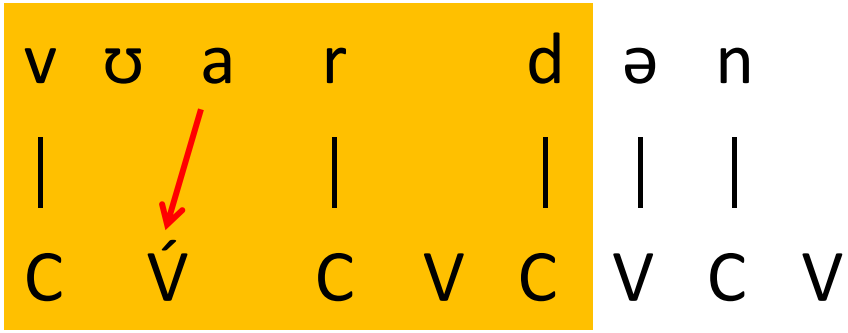
Every verb in Surmiran would have to have such an indeterminate representation.



Autosegmental alternative with a single UR



é ʦ
V C V



ə n
V C V

Whether one is content with this solution or not, it too curcially involves the selection of the better vowel among the two in the phonology.

Summary

If all phon-con allomorphy precedes phonology, it is predicted that purely phonological processes will not be able to interact with it.

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This view is falsified by the Surmiran case.

Unless one accepts massive floating, there must be phon-con allomorph selection in the phonology.

Summary

In other words, it must be possible for the morphology to provide more than one UR, “leaving the choice” for the phonology.

Annex: feature-sensitive allomorphy and modularity

A recurrent feature in the study of allomorphy is its limits.

Scheer (2016) makes a generalization that is quite remarkable in this respect, namely that

Pure melody (segments, features) cannot be the trigger of allomorph-selection (or of any syntactic operation)

Annex: feature-sensitive allomorphy and modularity

Pure melody (segments, features) cannot be the trigger of allomorph-selection (or of any syntactic operation)

Scheer claims that all of the cases that we saw of this are amenable to an analysis with floaters and one UR.

Annex: feature-sensitive allomorphy and modularity

Pure melody (segments, features) cannot be the trigger of allomorph-selection (or of any syntactic operation)

Ok, but why?

Annex: feature-sensitive allomorphy and modularity

Pure melody (segments, features) cannot be the trigger of allomorph-selection (or of any syntactic operation)

Ok, but why? **Modularity**

"…items that are processed by a given module cannot be read, parsed or understood by another module."

Annex: feature-sensitive allomorphy and modularity

Modularity

"…items that are processed by a given module cannot be read, parsed or understood by another module."

Phonology processes segments and features.

Therefore Morphology can't understand these.

Annex: feature-sensitive allomorphy and modularity

But nothing prevent morphology from understanding the structures **created** by phonology, or simply present in the representation, such as

Skeletal C/V distinction,

Syllabic structure,

Sonority (e.g. a<i,u)

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But nothing prevent morphology from understanding the structures **created** by phonology, or simply present in the representation, such as

Skeletal C/V distinction,

Syllabic structure,

Sonority (e.g. a<i,u)

Although how this happens is not very clear in Scheer's account, which concentrates on apparent counter-examples to his first generalization

Annex: feature-sensitive allomorphy and modularity

Pure melody (segments, features) cannot be the trigger of allomorph-selection (or of any syntactic operation)

=> a problem for OT accounts of allomorphy, because the entire phonology *in principle* interacts with allomorph selection (these accounts are **non-modular** wrt phonology and morphology)