

Unblurring the inflection/derivation divide in Laz

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- Laz conjugation presents a challenge for the split morphology hypothesis (Anderson, 1982; Perlmutter, 1988):
 - Inflectional and derivational affixes are interspersed.
 - Some position classes host either lexemic or inflectional material.
- The puzzle can be solved by allowing inflection rules to access structured lexemic representations.
- The analysis is couched in a modified version of Paradigm Function Morphology (Stump, 2001).

-4	-3	-2	-1	root	1	2	3	4	5	6
ko	go	m	o	k'untsx	in	am	t'	i	t	doe
AFF	LOC	OBJ.1	CAUS	wake_up	CAUS	THS	IPFV	PST	SBJ.12PL	EVD

'You (pl) were waking me up, I'm told.'

inflectional material
 lexemic material (base or derived)
 inflectional or **lexemic** material

Empirical evidence

Purely inflectional slots

- 4: affirmative preverbs
- 2: agreement with subject, object and/or indirect object
- 3 & 4: tense/aspect/mood
- 5: agreement with subject, object and/or indirect object
- 6: tense/aspect/evidentiality

Purely derivational slots

- 1 causative suffixes (*in, ap*)
- 3 preverbs deriving productively locative verb lexemes
 - ☞ In many cases a nonlocative meaning is lexicalized.

root	2	5	-3	root	2	5
ul	u	n	gam	ul	u	n
go	THS	SBJ.3SG	LOC	go	THS	SBJ.3SG
'he goes'			'he exits'			

root	2	5	-3	root	2	5
č	am	s	gama	č	am	s
feed	THS	SBJ.3SG	LOC	feed	THS	SBJ.3SG
'he feeds'			'he sells'			

Mixed slots

- 1 Usually filled by a valence marker reflecting a derivational operation.

-2	root	2	-2	-1	root	2	5
p	č'op	um	m	a	č'op	e(r)	n
1 > 3	catch	THS	SBJ.1	POT	catch	THS	OBJ.3SG
'I catch it'			'I am able to catch it'				

In the perfect, hosts an inflectional exponent cumulating subject person marking.

-2	-1	root	2	5
b	u	č'op	u(r)	t
3 > 1	PRE.SUBJ.3SG	catch	PRF	OBJ.PL
'he has caught us'				

- 2 In some TAM combinations, filled by a lexemically specified thematic suffix.

root	2	5	root	4-5
yur	u(r)	n	yur	u
die	THS	SUBJ.3SG	die	PST.PFV.SUBJ.3SG
'he dies'			'he died'	

Some derivation operations provide their own thematic suffix.

-1	root	1	2	5
o	yur	in	am	s
CAUS	die	CAUS	THS	SUBJ.3SG
'he kills'				

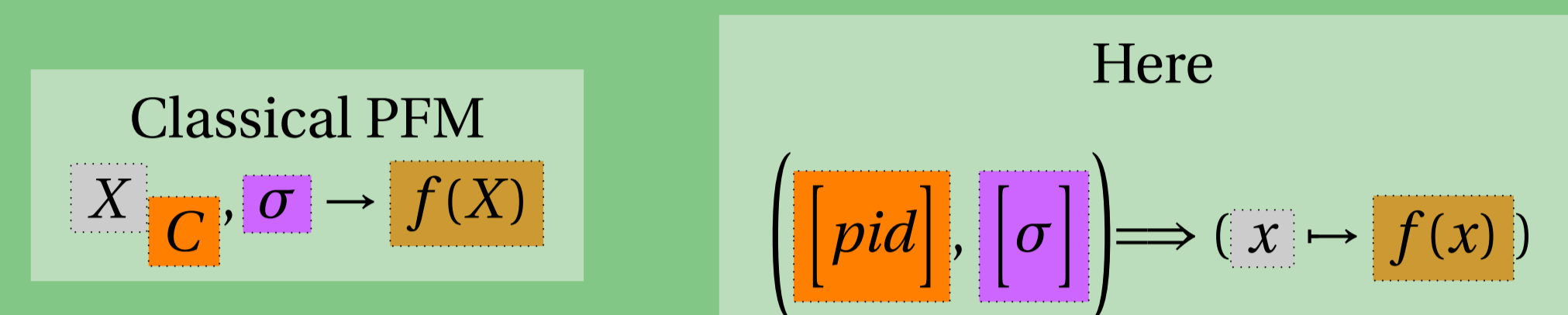
In other TAM combinations, hosts an inflectional suffix.

root	2	3	4-5
yur	a	t'	u
die	PST.OPT	IPFV	PST.PFV.SUBJ.3SG
'if only he could die!'			

Proposed analysis

The framework

- We use a variant of PFM embedded within an HPSG grammar.



- Main relevant innovation: indexed stems are replaced by an explicit theory of structured **paradigm identifiers** (*pids*).

Lexical entries

- pid* values individuate classes of lexemes with the same inflectional paradigm (a.k.a. 'inflectemes' (Fradin and Kerleroux, 2003)).
- Modelled as typed feature structures encompassing inflection class information, descriptions of a stem or stem alternants (Bonami and Boyé, 2006), descriptions of discontinuous stem formatives, etc.

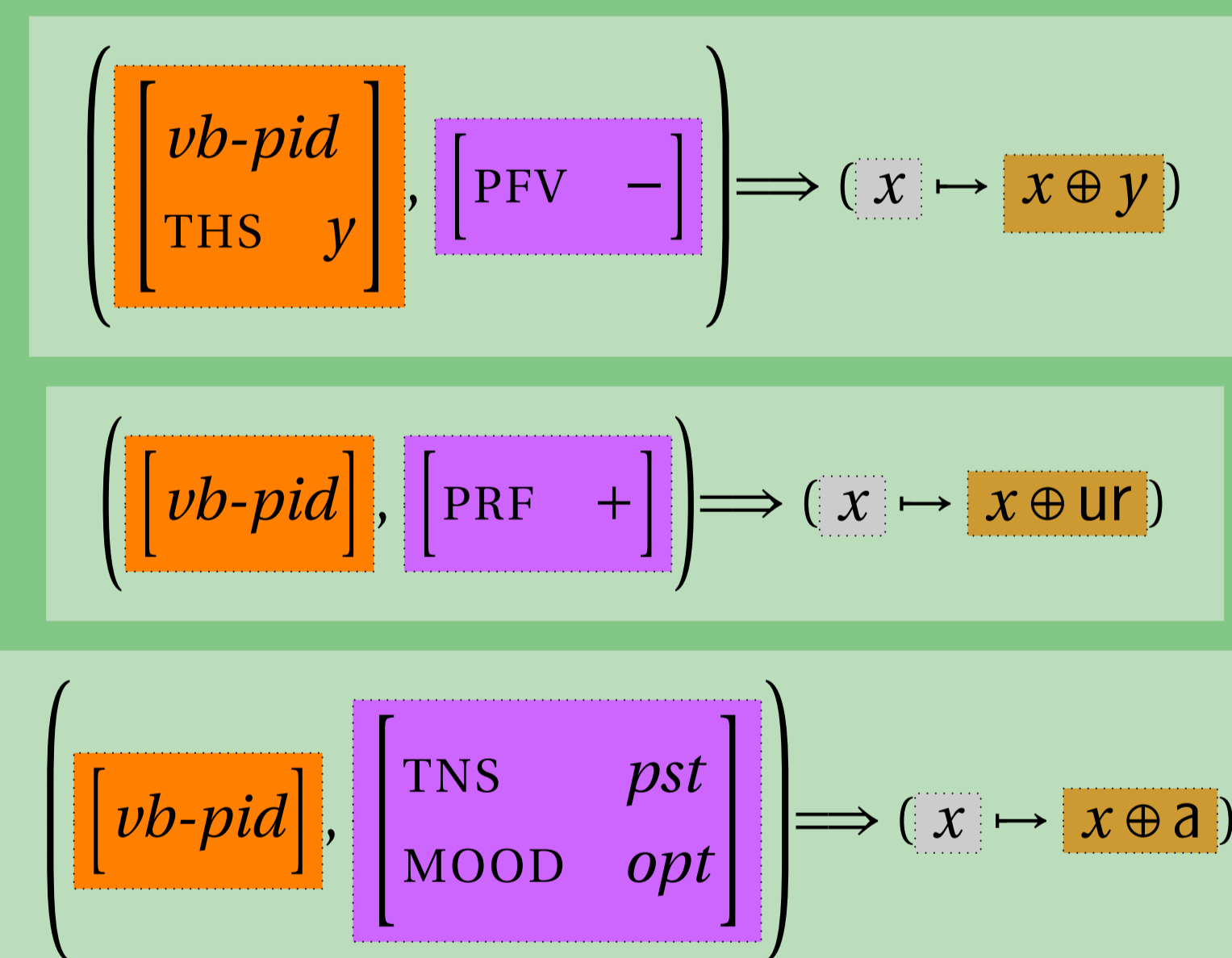
☞ No need for listed paradigm indices (contra Spencer, 2010).

<i>dzirom</i> 'see':	<i>gook'untsxinam</i> 'wake up':	<i>ibir</i> 'sing':
<i>class_1</i>	<i>class_1</i>	<i>class_2</i>
STEM: dzir	STEM: k'untsx	STEM: bir
LPV: ∅	LPV: go	LPV: ∅
VMK: ∅	VMK: o	VMK: i
THS: om	THS: am	THS: ∅

(LPV: locative preverb; VMK: valence marker; THS: thematic suffix)

Inflection rules

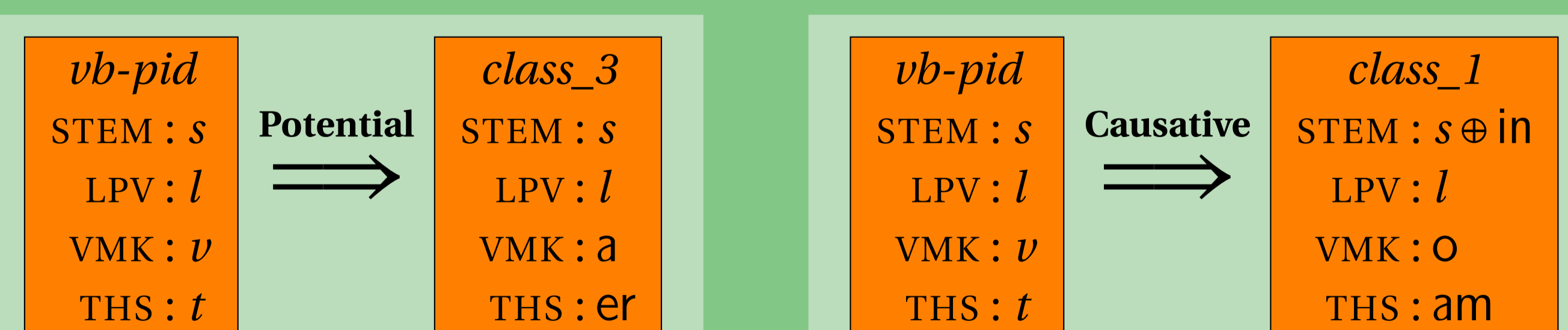
- Some inflection rules make crucial use of information provided by the *pid*; e.g. in block 2:



Derivation rules

- Since they create a new lexeme, derivation rules may affect all elements listed under *pid*.

☞ May affect not only the STEM but also the discontinuous stem formatives.



Conclusions

- In Laz, inflectional and derivational affixes do not cleanly align in separate parts of the word
- We propose an analysis where:
 - Inflection and derivation rules are of a different nature.
 - Competition between lexemic and inflectional material amounts to a distinction of two modes of exponence within the same position class.

Conclusions

- The analysis is semi-templatic (Simpson and Whitgott, 1986): lexemes come equipped with a template, which relates indirectly to position classes.
- We extend to 'discontinuous stems' the use of vectorial representations motivated by the treatment of stem allomorphy (Bonami and Boyé, 2006).
- This constitutes an alternative to the use of reified morphs (Crysmann, 2002) for the treatment of unusual affix orderings.

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References

Anderson, S. R. (1982). Where's morphology? *Linguistic Inquiry*, 13:571–612.

Bonami, O. and Boyé, G. (2006). Deriving inflectional irregularity. In *Proceedings of the 13th International Conference on HPSG*, pages 39–59, Stanford. CSLI Publications.

Crysmann, B. (2002). *Constraint-based Coanalysis*. PhD thesis, Universität des Saarlandes.

Fradin, B. and Kerleroux, F. (2003). Troubles with lexemes. In Booij G., J., de Cesaris, S., Scalise, S., and Ralli, A., editors, *Topics in Morphology. Selected papers from the Third Mediterranean Morphology Meeting*, pages 177–196. IULA-Universitat Pompeu Fabra, Barcelona.

Perlmutter, D. M. (1988). The split morphology hypothesis: evidence from Yiddish. In Hammond, M. and Noonan, M., editors, *Theoretical morphology: approaches in modern linguistics*, pages 79–100. Academic Press, San Diego.

Simpson, J. and Whitgott, M. (1986). Pronominal clitic clusters and templates. In Borer, H., editor, *Syntax and semantics, vol. 19: the syntax of pronominal clitics*, pages 149–174. Academic Press, Orlando.

Spencer, A. (2010). Lexical relatedness and the lexical entry – a formal unification. In *Proceedings of HPSG 2010*, pages 322–340, Stanford. CSLI Publications.

Stump, G. T. (2001). *Inflectional Morphology. A Theory of Paradigm Structure*. Cambridge University Press, Cambridge.