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Think globally, act locally (Marko Simonović & Petra Mišmaš)

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Slovenian verb

Structure: Root(√)-Theme(θ)-Tense&Agreement Morphology(φ).

• Theme vowels

(1) √-θ1-INF   √-θ2-1PL   (3) √-θ1-INF   √-θ2-1PL
a. sp-a-ti b. sp-i-mo   a. pas-Ø-ti b. pas-e-mo
   'to sleep' 'we sleep'   'to graze' 'we graze'

(2) √-θ1-INF   √-θ2-1PL   (4) √-θ1-INF   √-θ2-1PL
a. del-a-ti b. del-a-mo   s-Ø-ti   s-e-mo
   'to work'   'we work'

Verbs can have different theme vowels in finite and non-finite forms, but they do not have to.

• Roots display restrictions on their phonological form.
  - In verbs without root allomorphy, (1-3), roots either have a vowel (e.g. *del*) or are consonantal (e.g. *sp*),
    but there are no verbs with a zero theme vowel and a consonantal root, (4).
  - In verbs with root allomorphy, there is always a combination of the two: one allomorph of the root contains a syllable, whereas the other one is consonantal:

(5) √-θ1-INF   √-θ2-1PL   √-θ1-INF √-θ2-1PL   √-θ1-INF √-θ2-1PL
a. ž-e-ti   žanj-e-mo   b. br-a-ti ber-e-mo   c. ved-e-ti v-e-mo
   'to harvest' 'we harvest'   'to read' 'we read'   'to know' 'we know'

  - This means that there are **no verbs** with two consonantal or two syllabic root allomorphs:

(6) √-θ1-INF   √-θ2-1PL   √-θ1-INF √-θ2-1PL
a. žinj-e-ti žanj-e-mo   b. br-a-ti kr-e-mo

Structure of the verb with the focus on theme vowels

Theme vowels (TV) are typically assumed to be purely ornamental (Embick 2010, Oltra-Massuet 1999, Calabrese 2015).
  • Too strong for Slovenian.

Correlations between TV-classes and argument structure.
The TV-class e~i (e.g. *zven-é-ti* 'to sound', *zven-í-mo* 'we sound'):
  • tends to correlate with inchoative argument structure (Marvin 2002),
  • bottoms the list of the acceptability of an ACC complement,
  • majority of unaccusative verbs identified in Ilc&Marvin (2016).

Lesson? Not all theme vowels are alike.

Link to prosody

• Cue: TV-class e~i has a strong tendency for *stressed* TV
• Simonović&Mišmaš (2020): Verbal stress follows from the structure.
  • Observation: Verbs have 2 positions for stress: on the TV or root-final.
  • Analysis: → Two cycles and two positions for theme vowels
    (one within the root cycle and one outside of it).
    → Stress is always placed in the end of the root cycle.

	PLACEMENT OF STRESS				POSSIBILITY OF COMPLEMENT
	INFINITIVE		PRESENT TENSE		
	THEME VOWEL	STEM	THEME VOWEL	STEM	ACCUSATIVE
a, e	82.86%	17.14%	42.86%	57.14%	91.43%
i, i	59.38%	58.33%	41.32%	62.85%	86.23%
a, je	82.14%	32.14%	0.00%	100.00%	78.31%
ø, e	0%	100 %	2.96%	96.97%	75.17%
a, a	8.89%	92.54%	7.27%	92.64%	73.33%
ni, ne	36.11%	91.67%	2.78%	97.22%	65.28%
e, e	95.56%	4.44%	88.89%	11.11%	64.44%
ø, ne	0%	100%	30.77%	69.23%	56.00%
a, i	89.19%	10.81%	89.19%	10.81%	43.24%
e, i	96.03%	3.97%	96.03%	3.97%	24.60%

a. InfP — Inf *ti* — v2P — V2 — … — v1P — v1 √*goljuf* *a*

b. InfP — Inf *ti* — v2P — V2 *a* — … — v1P — v1 √*vijug*

If the TV is in the root cycle, it gets stress, e.g. in *goljuf-á-ti* 'to cheat'.

If the TV is not in the root cycle, stress goes to the end of the root, e.g. in *vijúg-a-ti* 'to wind'.

Next stop: Root allomorphy

Cyclic Spellout predicts that the form of the root allomorphs will be decided based on the information available in the cycle.

Challenge 1: Can this account for the restrictions on the prosodic shape of allomorphs?

Challenge 2: Can it account for alleged cases of non-local allomorphy in Slovenian?

Challenge 2: The (seeming) cases of non-local allomorphy

Analyzed as such in Božič (2019: 501): the exponent of the root can differ depending on the *finiteness* of the form and this interaction occurs *across* the theme vowel (*ž-e-ti* 'to reap' vs. *žanj-e-mo* 'we reap').

The structure in Božič (2016: (1), (2)) →
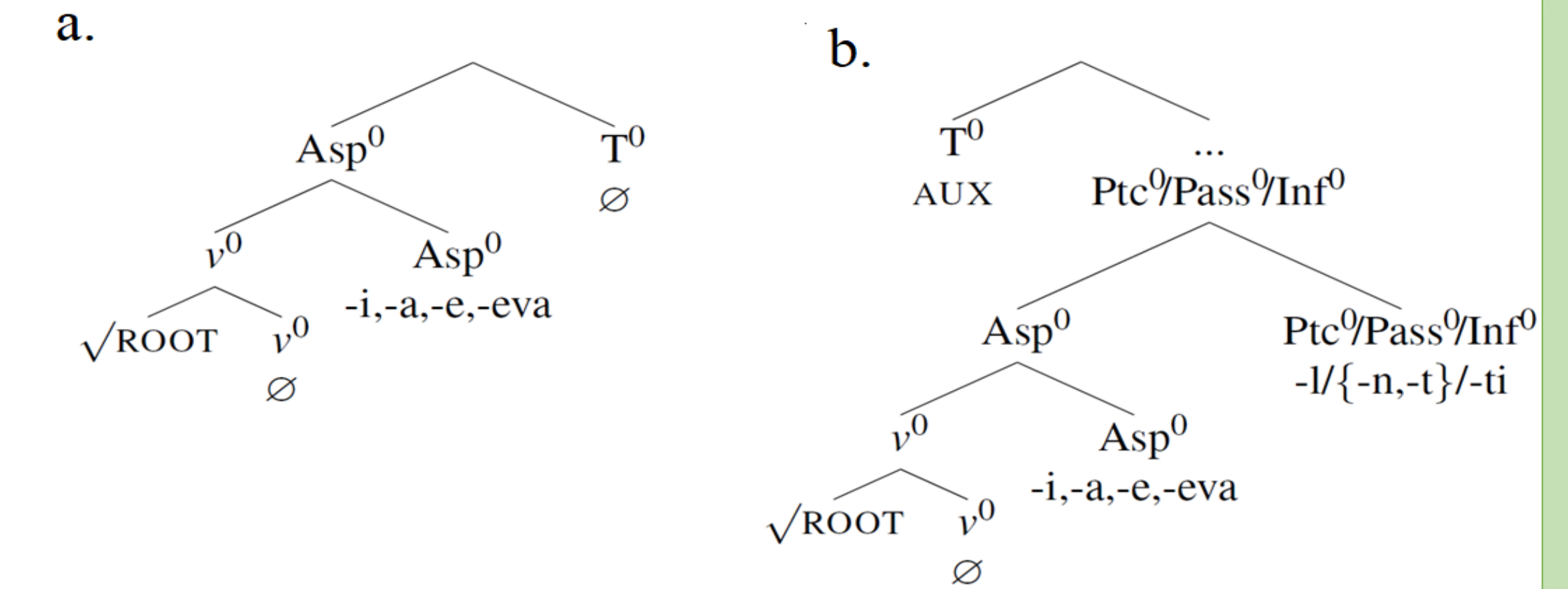
We show that these data should not be an argument for non-local allomorphy.

A (different) solution for Challenge 1 and Challenge 2

Proposal in a nutshell:
• Root allomorphy only happens in cases where finite and non-finite forms are different wrt the position of the theme vowel.

Assumptions:
• Root allomorphs are represented as ordered pairs, e.g. for ž-é-ti~žánj-e-mo, /ž, žanj/.
• Marvin (2003): Theme vowels in Slovenian are the spell-out of the *v* heads.

A departure from the abstract:
• We argue for local allomorphy in ž-é-ti~žánj-e-mo, not the traditional analysis (*že-ø-ti~žanj-e-mo,* e.g. in Šekli 2010).
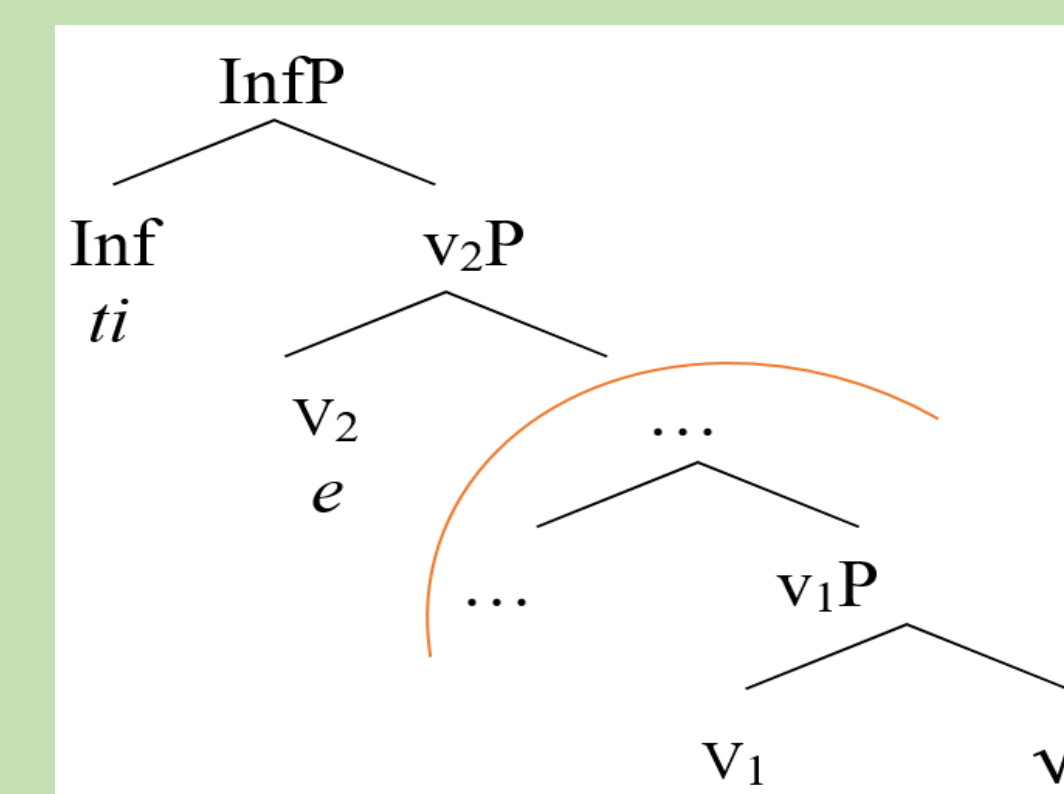
Rethinking root allomorphy: Why does it happen?
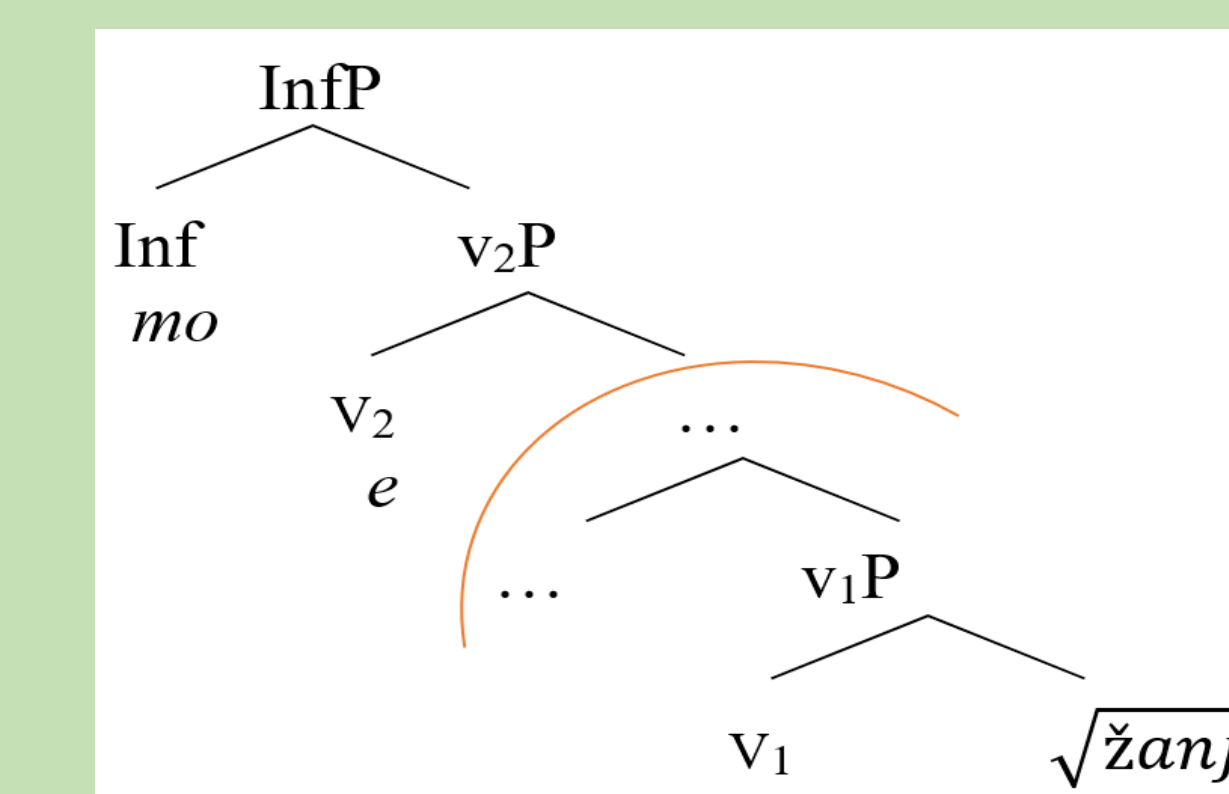**A minimality condition for the output of the root cycle: it has to be at least one syllable.**

Present tense: *žánj-e-mo*
The stress is on the root, so the TV is *not* in the root cycle.

If the first allomorph of /ž, žanj/ gets inserted, the root cycle has the non-syllabic output ž, which does not satisfy the minimality condition.
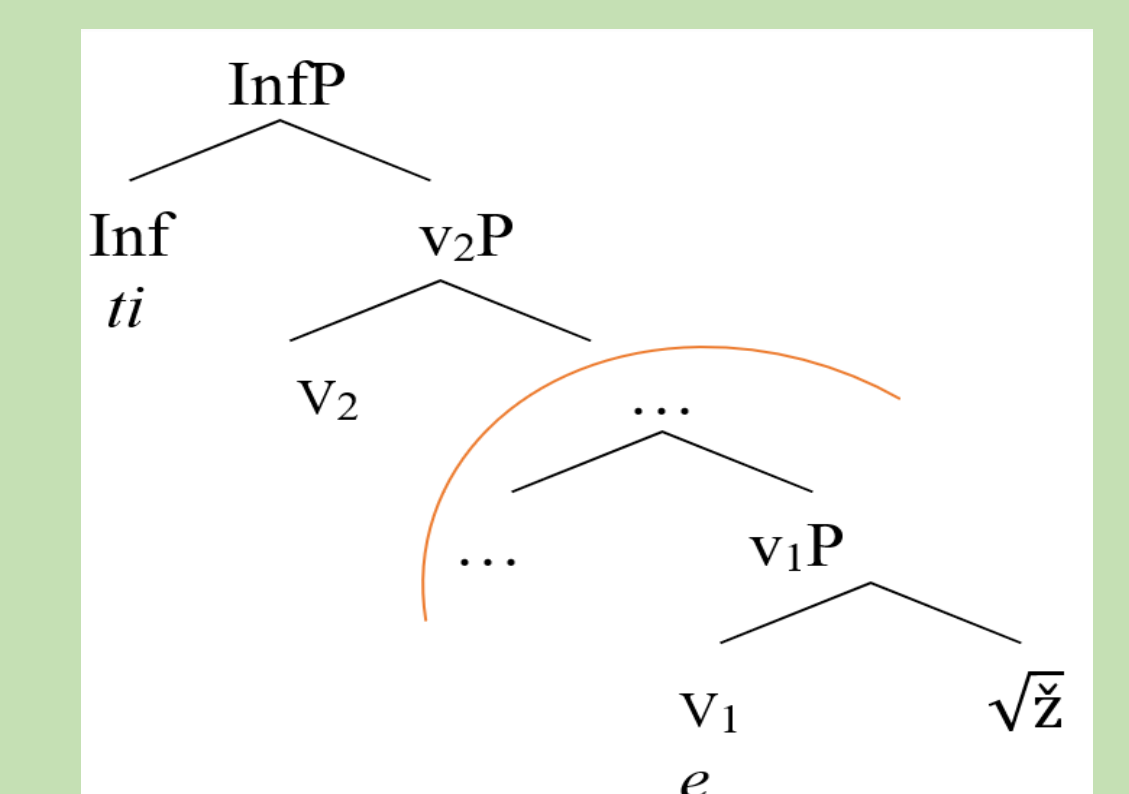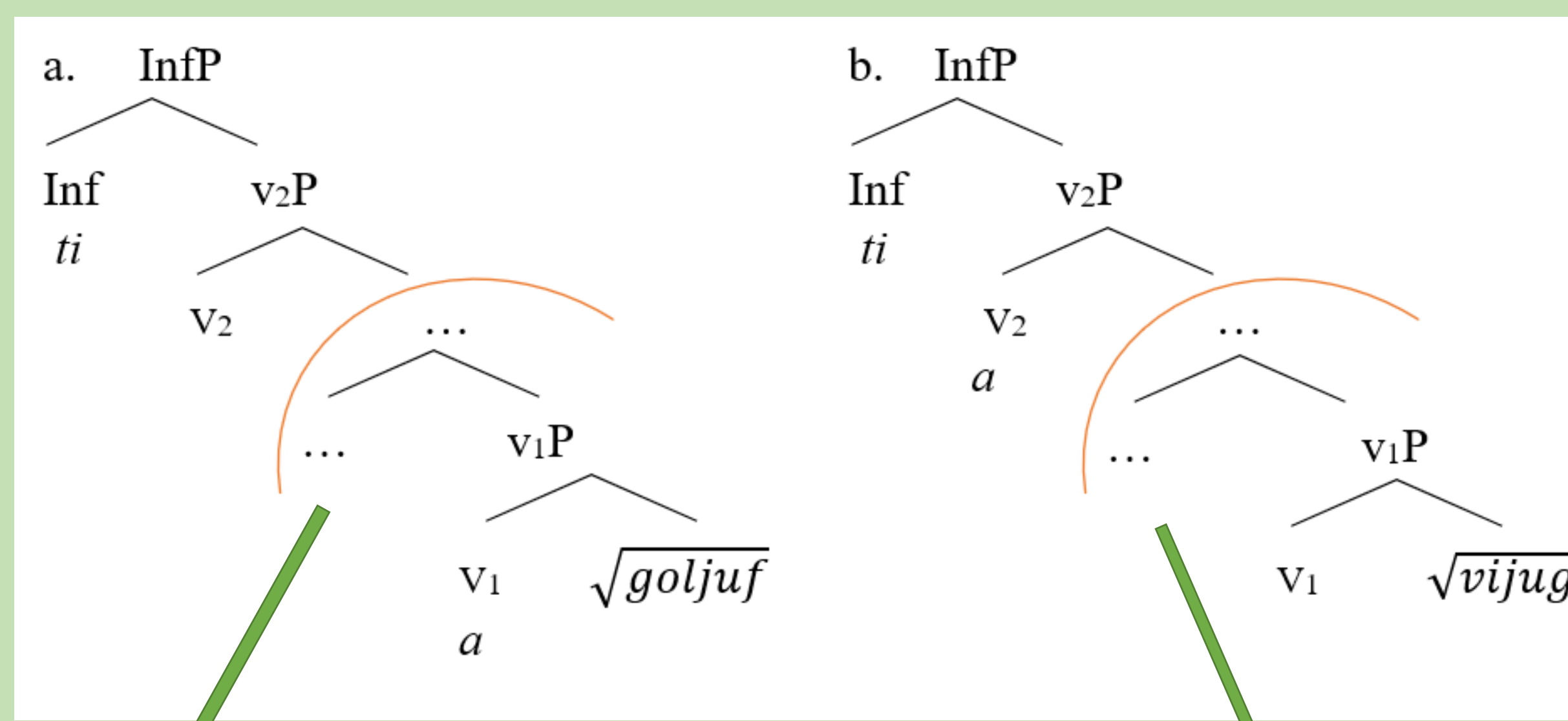
Therefore, the second allomorph gets inserted.

In the infinitive form, the TV is in the same cycle as the root.

The outcome of the insertion of the first allomorph, *že*, is a grammatical one for PF.

Overgeneration?

If /ž, žanj/ is a possible representation, then also (i) the reverse (i.e. /žanj, ž/), (ii) a representations with two syllabic allomorphs (e.g. /žanj, žinj/) or (iii) a representation with two consonantal allomorphs (e.g. /ž, b/) should be possible.

In our model, each of these representations would lead to a regular, non-allomorphic paradigm.
(i) /žanj, ž/: *žanj* would always get inserted → žanj-é-ti~žánj-e-mo (an attested pattern, e.g. in um-é-ti~úm-e-mo 'to know, we know').
(ii) /žanj, žinj/: *žanj* would always get inserted → žanj-é-ti~žánj-e-mo (an attested pattern, e.g. in um-é-ti~úm-e-mo 'to know, we know').
(iii) /ž, b/, some kind of repair would have to apply, but it would apply to the first allomorph in both cases, hence no root allomorphy. Assuming that this repair would be the insertion of a theme vowel into the empty v1 position, this would lead to the non-allomorphic paradigm ž-é-ti, ž-é-mo (well attested, e.g. in sm-é-ti, sm-é-mo 'may, we may').

What do we account for? Restrictions on the phonological form of root allomorphs.

In verbs with root allomorphy:
no verbs with two consonantal or two syllabic root allomorphs
(br-a-ti~kr-e-mo or žinj-e-ti~žanj-e-mo)
because no ordered-pair representation would lead to such verbs.

In verbs without root allomorphy:
no verbs with a zero theme vowel and a consonantal root
(s-Ø-ti ~ s-e-mo)
because no ordered-pair representation would lead to such verbs.

All interactions are strictly local and restricted to the domain of the cycle.

Further issues: Our account runs only on the phonological restriction for 22 roots.
For 2 roots (*báti-bojímo* 'to fear'-'we fear' & *státi-stojímo* 'to stand'-'we stand') we need to assume allomorphic VI's (still local).

References: Božič, Jurij. 2016. Locality of exponence in distributed morphology: Root suppletion in Slovenian. *In NELS* 46. ● Calabrese, Andrea. 2015. Irregular morphology and athematic verbs in Italo-Romance. *Isogloss.* 69-102 ● Embick, David. 2010. Localism versus Globalism in Morphology and Phonology. Cambridge: MIT Press. ● Ilc, Gašper & Tatjana Marvin. 2016. Unaccusatives in Slovenian from a cross-linguistic perspective. *Formal Studies in Slovenian Syntax: In honor of Janez Orešnik.* ● Marvin, Tatjana. 2002. Topics in the stress and syntax of words. PhD, MIT. ● Oltra Massuet, Maria Isabel. 1999. *On the notion of theme vowel: A new approach to Catalan verbal morphology.* MA, MIT. ● Simonović, Marko. Under review. Derivational affixes as roots in a lexical stress system. ● Simonović, Marko & Petra Mišmaš. 2020. Verb wasn't built in a cycle (it was built in two). Talk at SLS 15. ● Šekli, Matej. 2010. In Oblikotvorje in jakostni naglas glagola v knjižni slovenščini. Slovanstvo v slovenskem jeziku, literaturi in kulturi: zbornik predavanj. Ljubljana: Znanstvena založba. FF.