What *actually* delimits the context for allomorphy?

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NELS 55, 10/17/2024

1. Introduction

- **Allomorphy**: The form of a morpheme (syntactic terminal) is determined based on some property of another item (e.g., PL *-en* in *oxen*)

- **Suppletive** = The allomorphs are not plausibly derived from a single underlying form by (morpho)phonological rules (e.g., *go–went*)

- Research in Distributed Morphology (DM) has found that many patterns of allomorphy can be explained if allomorph selection is done cyclically

- Categorizers (v, n, a) are the relevant cyclic heads, and cyclic spellout is governed by the principle in (1), reminiscent of the weak PIC

(1) Schematization of cyclic domains (Embick 2014:272):

    a. Cyclic y merged in [y [X [Y [x $\sqrt{\text{ROOT}}$...]]]]

    b. Cyclic domain centered on x = [X [Y [x $\sqrt{\text{ROOT}}$]]] sent to interfaces

$\rightarrow$ Intended outcome: $\sqrt{\text{ROOT}}$ and y cannot interact for the purposes of allomorph selection because they are in separate spell-out domains

$\rightarrow$ The root is accessible to the first cyclic head x and any intervening non-cyclic heads (X, Y)

- Several ancillary mechanisms argued to further delimit allomorphy:
(i) **linear adjacency** (Embick 2010, a.o.);

(ii) **structural adjacency** (Adger, Béjar & Harbour 2001, 2003, a.o.);

(iii) **accessibility domain**: roots are visible to the first node above the categorizer–Y, but not X in (1) (Moskal 2015)

> There are violations of (i)-(iii) in Bosnian/Croatian/Serbian (BCS) allomorphy

§2 Nominalizers in BCS complex nominals show allomorphic conditioning by a linearly non-adjacent morpheme

§3 The root and comparative affix are visible to each other in BCS negative comparative adjectives despite the structural intervention of negation

2. Case study I: Complex nominals

> Choice of n-allomorph is sensitive to the root in the string ROOT-AV-TH-n

- Consider the BCS morpheme *-av*, used productively to produce imperfective forms of perfective (telic) verbal stems:

(2) a. prod-a-ti   b. prod-av-a-ti
           sell-TH-INF   sell-AV-TH-INF
           'sell'   'be selling'

- NB1: The takeaway is that *-av* is **a morpheme**, i.e., a syntactic terminal; I will keep glossing it as -AV since there are proposals that (i) it is an 'eventizer' (Tatevosov 2015), or (ii) it is a root (Quaglia et al. 2022)

- (ii) receives some support from stress patterns (Appendix A)

- NB2: I (conservatively) do not treat the theme vowel as an intervener[1]

- BCS agent nominals can have a number of different *n*-allomorphs, including *-telj* (often interchangeable with *-lac*), *-ač*, and *-(a)c*, (3)-(5)

    (3) a. pozn-av-a-**telj**   b. prouč-av-a-**telj**   c. reš-av-a-**telj**
         know-AV-TH-N   study-AV-TH-N   solve-AV-TH-N
         'expert'   'researcher'   'solver'

    (4) a. predsed-av-a-**ač**   b. pred-av-a-**ač**   c. ugnjet-av-a-**ač**
         chair-AV-TH-N   lecture-AV-TH-N   oppress-AV-TH-N
         'chair'   'lecturer'   'oppressor'

    (5) a. prod-av-a-**ac**   b. dar-o-d-av-a-**ac**   c. posl-o-d-av-a-**ac**
         sell-AV-TH-N   gift-L-give-AV-TH-N   job-L-give-AV-TH-N
         'seller'   'giftgiver'   'employer'

- The *n*-allomorphs in (3)-(5) are **not** interchangeable: **poznavač, *predsedavac, *prodavatelj, *proučavač, *predavac, *ugnjetavac, *poslodavatelj*, etc.

- The nominalizer is separated from the root at least by the morpheme *-av*

- Still, the choice of the *n*-allomorph is sensitive to the identity of the root

- Whatever the exact structure of (3)-(5), for Embick linearization occurs before allomorph selection, so that we get ROOT-AV-(TH)-N

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[1]Some theme vowels have been argued to be dissociated morphemes (Oltra-Massuet 1999), but dissociated morphemes are inserted prior to VI (Embick 1997), so they should still count as interveners. At least in the cases we see here, it is also possible "theme vowels" are yers that are part of the morpheme that precedes them, cf. prod-av-∅-∅c-a 'sell-AV-TH-N-GEN.SG'. On the distribution of yers in Slavic see e.g., Scheer 2011.

- Since the choice of the *n*-allomorph depends on the identity of the root, across linearly intervening morphemes with overt exponents, **this BCS case violates the linear adjacency requirement on allomorphy**[2]

3. Case study II: Negative comparative adjectives

> ROOT and CMPR can see each other in the structure [CMPR [NEG [*a* [ROOT]]]]

- The form of the comparative (*-ij-*, *-j-*, *-š-*, or root suppletion) is not fully predictable in the synchronic grammar of BCS (Stanojčić & Popović 1992)

- Consider adjectives with short (6) and long (7) monosyllabic roots:[3]

(6) a. sit 'full' + -ij-(i) 'CMPR.M' → sitiji 'fuller'

     b. strog 'fact' + -j-(i) 'CMPR.M' → stroži 'faster'

     c. mek 'soft' + -š-(i) 'CMPR.M' → mekši 'softer'

     d. zao 'bad' + -∅-(i) 'CMPR.M' → gori 'worse'

(7) a. slaan 'salty' + -ij-(i) 'CMPR.M' → slaniji 'saltier'

     b. jaak 'strong' + -j-(i) 'CMPR.M' → jači 'stronger'

     c. leep 'pretty' + -š-(i) 'CMPR.M' → lepši 'prettier'

     d. maal(-i) 'small' + -∅-(i) 'CMPR.M' → manji 'smaller'

- The choice of CMPR is root-dependent and not phonologically predictable

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[2]The "with overt exponents" part is important because Embick allows the pruning of morphemes whose exponents would be null at VI.

[3]The suffix *-j(i)* triggers a regular palatalization (iotation) process, such that e.g., /gj/ → [ʒ].

- Negated adjectives can also be used in the comparative form (8)[4]

(8) **Context**: I want to buy cheese that's not too salty/small. The seller says:

Ovaj	je	prilično	ne-slan	/	ne-mal-i.	A	ovaj
this	is	pretty	NEG-salty		NEG-small-M	and	this

ti	je	još	**ne-slan-ij-i**	/	**ne-manj-∅-i**.
you.DAT	is	even	NEG-salty-CMPR.M		NEG-small-CMPR.M

'This one is pretty unsalty/non-small. And this one is even more unsalty/ non-small (than the first).'

- In (8), the comparative scopes over the negative (CMPR>NEG); had NEG>CMPR, the interpretation would have been weaker, namely that the second cheese is not saltier/smaller than the first

(9) $[\varphi P$ -i $[$ CMPRP -ij- $[$ NEGP ne- $[aP \varnothing [\sqrt{}P \sqrt{}$SLAN $]]]]]$

- Given the conclusion that the CMPR allomorph is root-determined, CMPR must be able to see the root despite the intervention of NEG (and a)

- **This BCS case violates the structural adjacency condition on allomorphy**

- **Access to the root is not restricted to the first node above the categorizer**

4. Conclusions and implications

- If we can do away with adjacency requirements on allomorphy, we can simplify the grammar

- Note that the BCS data instantiate a pattern where a further away morpheme conditions allomorphy over a closer morpheme, ***but the closer morpheme itself does not condition allomorphy*** (AAB in Bobaljik 2012)

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[4]And with the other two allomorphs: *nebrži, nemekši.*

- We may still need a general locality principle on allomorphy (in addition to cyclic spellout), based on intervention

- VI applies from the root outwards (Bobaljik 2000, Kalin & Weisser to appear); a closer morpheme always wins out over a further away one if both can in principle trigger allomorphy (explains *ABA)

- Is the 'closer' morpheme here calculated in structural or linear terms?

- Note that if linearization applies before VI (Embick 2010, Wood 2015, Kalin 2022, a.o.), this still in principle leaves both options open

- The system first produces a bracketed linear structure which preserves the hierarchical ordering, and only after this is the concatenation operation executed to get a purely linear string (Embick 2010, Wood 2015)

(10)   a. $(X * (Y * Z))$

     b. $X \frown Y \frown Z$

- If VI occurs after the first step, then VI should in principle be able to reference both linear and hierarchical information

- There is evidence that linear and structural information can be referenced at VI (e.g., Bobaljik 2000, Kalin 2022, Bešlin forthcoming, Appendix B)

- This suggests that VI occurs after linearization but before concatenation (i.e., before structural information is lost)

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Appendix A   On the identity of *-av* and locality domains

- The morphemes exponed by *-av* and *-iv* appear in so-called secondary imperfective verbs and signal a shift in aspect (11)-(12)

(11) a. prouč-i-ti
          study-TH-INF
          'research'

    b. prouč-av-a-ti
          study-AV-TH-INF
          'be researching'

(12) a. zatašk-a-ti
          coverup-TH-INF
          'cover up'

    b. zatašk-iv-a-ti
          coverup-IV-TH-INF
          'be covering up'

- They also appear in agent nominals, but not all, cf. (13a-b) vs. (13c-d)

(13) a. prouč-av-a-telj
          study-AV-TH-N
          'researcher'

    c. uruč-i-telj
          serve-TH-N
          'process server'

    b. zatašk-iv-a-ač
          coverup-IV-TH-N
          'cover up agent'

    d. istovar-a-ač
          unload-TH-N
          'unloader'

- Quaglia et al. (2022): They also appear in the derivation of (seemingly) simple nouns and adjectives–they are **bound roots**

(14) a. maz-iv-o
          daub-IV-NEUT.SG.NOM
          'grease'

    b. jez-iv-a
          shudder-IV-F.SG.NOM
          'creepy'

- If *-iv* and *-av* are roots and not morphemes that necessarily appear in the verbal domain, then this explains why *n* in our agent nominals in §2 has access to the root: it is the first categorizer

- Bešlin (forthcoming) finds that exponents with an underlying (pitch) accent can only realize it if they are spelled out in the first cyclic domain, as in (1)

- For example, the nominalizer *-(a)c* is underlyingly accent-marked, but only realizes that accent if it is the first-merged categorizer, and not in e.g., deadjectival nominals (15)-(16)[5]

(15) a. škȑt → škrt-ác
     'stingy' 'scrooge'

    b. alžír → alžir-ác
      'Algeria' 'Algerian(N)'

(16) a. nobél-ov → nobélov-ac
     'Nobel's' 'Nobel winner'

    b. bajrón-ov→ bajrónov-ac
      'Byron's' 'Byron follower'

- Unlike categorization, compounding does not have the effect of closing off the locality domain for the realization of pitch accent (17)

(17) posl-o-dav-ác
    job-L-give-N
    'employer'

- This further suggests that *-iv* and *-av* are not specifically verbal morphology, and that there may not be any verbal structure in *-iv*/*-av* agent nominals

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[5]Non-categorizing morphemes in the extended projection of the first categorizer (DEG and NEG for *a*, DIM for *n*) can still affect the position of the accent, just like (1) predicts.

Appendix B   On the ordering of VI and linearization

- Independent of allomorphy, BCS provides evidence that structural information must be available at VI

- **Exponents** of BCS morphemes are idiosyncratically marked or unmarked for accent

- Looking at exponents of CMPR, *-ij(i)* is underlyingly accent-marked while *-j(i)* isn't; for *n*[AGENT], *-ač* is accent-marked and *-telj* isn't, etc.

- Bešlin (forthcoming): **Pitch-prominence in BCS is realized on the structurally highest accent-marked element in the first spellout domain**

- For example, the nominalizer *-(a)c* is underlyingly accent-marked, but only realizes that accent if it is the first-merged categorizer, and not in e.g., deadjectival nominals (18)-(19)

(18) a. škȑt → škrt-ác
     'stingy' 'scrooge'

    b. alžír → alžir-ác
      'Algeria' 'Algerian(N)'

(19) a. nobél-ov → nobélov-ac
     'Nobel's' 'Nobel winner'

    b. bajrón-ov→ bajrónov-ac
      'Byron's' 'Byron follower'

- The position of pitch-prominence is not always shifted to the right

- If the structurally highest accent-marked element in the first spellout domain is a prefix then that is where pitch-prominence surfaces (20)

(20) né-društv-en   (cf.   društv-én)
    NEG-social-A
    'unsociable'

- **Accent-marking is a property of exponents (not morphemes), yet its placement is determined based on structural relations**

- Structural information is relevant at VI

Appendix C   On bracketing paradoxes

- There is a long tradition of discussion negative comparative adjectives un-der the rubric of 'bracketing paradoxes'

- For (21), the idea is that the correct constituency for form purposes is in (21a), while the correct meaning is derived with the structure in (21b)

(21)   a.   [un- [happi-er]]   b.   [[un-happy] -er]

- Newell (2008): *un-* is an adjunct which attaches acyclically to the bottom of the tree after spellout of [happi-er] to PF; no bracketing paradox

- This solution cannot generalize to BCS

- In BCS, accent (pitch prominence) is a property of individual exponents, and it gets realized on the structurally highest underlyingly-accent marked element in the first spellout domain, as in (1)

- For example, the nominalizer *-(a)c* is underlyingly accent-marked, but only realizes that accent if it is the first-merged categorizer, and not in e.g., dead-jectival nominals (22)-(23)

(22)   a. škŕt → škrt-ác   b. alžír → alžir-ác

       'stingy'   'scrooge'   'Algeria' 'Algerian(N)'

(23)   a. nobél-ov → nobélov-ac   b. bajrón-ov→ bajrónov-ac

       'Nobel's'   'Nobel   'Byron's'   'Byron

               winner'   follower'

- Non-categorizing morphemes in the extended projection of the first catego-rizer can still affect the position of the accent, just like (1) predicts

- For example, both *ne-* 'NEG' and *-ij* 'CMPR' have an underlying accent, so pitch prominence surfaces on them in adjectives that contain them (cf. slán)

(24)   a. sl-an-íj-i   b. né-sl-an

       salt-A-CMPR-M   NEG-salt-A

       'saltier'   'unsalty'

- Note that this is despite NEG being a prefix (i.e., structure matters!)

- Pitch-prominence, which is calculated within the first spellout domain in BCS, surfaces on adjectival NEG, strongly suggesting NEG is merged in the first cycle, and not acyclically

- Pitch prominence surfaces on the structurally highest underlyingly accent-marked exponent in the first spellout domain

  As predicted by the structure in (9), repeated here in (25), pitch prominence surfaces on the comparative when both it and negation co-occur on an ad-jective, e.g., *ne-slan-íj-i*.

(25)   [φP -i [CMPRP -ij- [NEGP ne- [*a*P $\varnothing$ [$\sqrt{}$P $\sqrt{}$SLAN]]]]]

- There is no bracketing paradox in BCS; LF and PF are both clearly fed the structure in (25)