Accounting for opacity effects at the form interface without the PIC

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In a nutshell:

Locality conditions on (morpho-syntactically conditioned) allomorphy can be specified without recourse to PIC-driven opacity

Instead, allomorphy is constrained by:

→ root-outward cyclic spell-out
→ structural adjacency

Eliminating the PIC from the form interface supports recent proposals that spell-out creates **no** opacity effects, either in the syntax or in the phonology

Background on the locality of allomorphy

Syntactic structure is standardly taken to be transferred to the interfaces in non-trivial chunks (1); for PF locality, (1) is further augmented with the Activity Corollary (2), which resembles the weak Phase Impenetrability Condition (PIC, Chomsky 2001)

(1) SCHEMATIZATION OF CYCLIC DOMAINS (Embick 2014):
a. Cyclic y merged in [[[[√ROOT... x] Y] X] y]
b. Cyclic domain centered on x = [[[√ROOT x] X] Y] sent to interfaces

(2) ACTIVITY COROLLARY (AC, Embick 2014):
In [[.... x] ... y], x and y cyclic, the complement of x is not active in the PF cycle in which y is spelled out.

(1)-(2) account for (at least some) patterns of (im)possible allomorphy (3):

(3) a. **marri-age** → [[√MARRY] n] b. **marry-ing** → [[[√MARRY] v] n]

CONSENSUS: Allomorphy is further limited, e.g., to structurally or linearly adjacent elements (Adger, Béjar & Harbour 2001, Embick 2010, Bobaljik 2012, Moskal 2015, a.o.)

Cyclicity effects in syntax and phonology

Cyclic spell-out and the PIC are widely employed to explain locality effects in the syntax and in the phonology (successive-cyclic movement … syllabic organization)

In recent years, a strong case has been made for the position that cyclic spell-out does **not** create opacity effects, either in the syntax (Newell 2017, Bešlin 2025) or in the phonology (Gwendorf & Kremers 2014, Embick 2014, Newell 2017, to appear, a.o.)

Cyclic spell-out = ✅ Spell-out opacity (PIC) = ❌

If there are no spell-out driven opacity effects in syntax or phonology, it is highly suspect that spell-out opacity plays any role at the syntax-phonology interface

Spell-out opacity without the PIC

Cyclic spell-out limits allomorphy even without recourse to the PIC

Root-outward Vocabulary Insertion (Bobaljik 2000) = the root in (4) cannot see cyclic y because y is not present in the root's spell-out cycle;

No PIC = spell-out is cumulative; the spell-out domain of y includes the root

(4) [[√ROOT x] y] – Why doesn't y see the root?

In other words, why doesn't n see the root in a deverbal nominal? E.g., [[[√MARRY] v] n]

PROPOSAL: Contextual allomorphy is only available to structurally adjacent terms

In [A [… B]], A and B are structurally adjacent iff A and B are terms and the features of B are present on A's sister

I. Structural adjacency is defined in featural terms (cf. Adger, Béjar & Harbour 2001)
→ This kind of structural adjacency is also needed for c-selection (Hornstein 2024)

II. The PIC/AC is unnecessary in accounting for locality conditions on allomorphy

III. Allomorphy is limited to contiguous heads, except in well defined circumstances involving intervention by a non-projecting head: an **adjunct** or a **root**

Adjuncts as non-interveners

Distributional facts show most elements claimed to not intervene for allomorphy do not alter the syntactic category of their host phrase: They are **adjuncts**

E.g., the distributive (Kiowa, Bonet & Harbour 2012), negation (Kiowa, ibid, Bosnian/Croatian/Serbian (BCS), Bešlin to appear), diminutive (Basque, Bobaljik 2012, BCS), and space marker (Nez Perce, Deal 2010, 2018)

Nez Perce space markers (SPs) may intervene between Asp(ect) and T(ense), with the features of T triggering allomorphy on Asp (5a-b)

(5) a. hi-weqi-**teetu**(-m)-∅
3SUBJ-rain-HAB-SP-PRES
'It rains here.'

b. hi-waqi-**qa**(-m)-qa.
3SUBJ-rain-HAB-SP-REC.PST
'It used to rain here (recently).'

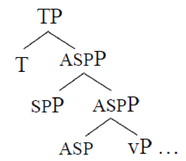
Deal (2018:8): structural adjacency violated; SPs are functional heads:

Argument	Counterpoint
SPs select for particular aspects	So can adjuncts (e.g., *in X time*)
SPs appear in one position in the clause	So do various adjuncts of the same kind
SPs are closed class	So are adjectives in Mayan, yet they can be adjuncts
SPs locate events deictically in spacetime	So can temporal adjuncts

A selection-based argument needs to show structures with/out SPs have distinct distributions (they don't)

Sp is an adjunct (6); T & Asp are structurally adjacent

(6)



Root-root compounds

Root-root compounds have been argued to exist in a number of languages, including Chinese (Zhang 2007), Dutch (De Belder 2017), and English (Borer 2013)

In BCS, root-root compounds can involve two bound roots, have first-phase stress on n, and contain linking vowels (see Bešlin to appear)

Seemingly non-local allomorphy is observed in BCS root-root compounds (7)-(8); neither first nor second root uniquely determines n-allomorphy

(7) a. dub-o-rez-**ac** (cf. rez-**ač**) b. zemlj-o-rad-**nik** (cf. zemlj-**ak**)
deep-L-cut-N cut-N earth-L-work-N earth-N
'woodcutter' 'cutter' 'farmer' 'countryman'

(8) a. prouč-ava-**telj** b. prod-av-**ac** c. pred-av-**ač**
study-AV-N sell-AV-N lecture-AV-N
'examiner' 'seller' 'lecturer'

Roots don't project: When multiple roots merge neither is 'cut off' from the categorizer by an intervening projector; they are structurally adjacent to the first categorizer

NB. Merging morphemes prior to categorization is not usually considered in DM, though I am not aware of any reason why it would be prohibited (see Marantz 2007)

Extensions & interesting complications

(A) It has been observed that **null exponents** must not count as interveners for allomorphy (though they may still trigger spell-out)

(9) a. **ox-en** → [[[√OX] n] NUM] b. **wor-st** [[[√BAD] a] DEG]

NB: linear adjacency does not fare better out of the box than structural adjacency; it also encounters look-ahead problems in (9b); see Paparounas 2024

(B) Is there **domain suspension**? Bobaljik & Wurmbrand 2013: an element can be visible for 'longer' iff its exponence rules refer to the next higher cyclic head

E.g. Irish root-allomorphy triggered by C; these roots also exhibit Tense allomorphy

(C) What goes on with verbs like *under-stand* or *ver-stehen* ? They contain the root STAND and Embick claims Tense allomorphy violates structural adjacency (10)

(10) [[UNDER [STAND]] T+PST]

Why not think that *under* is an adjunct or that (10) is a root-root compound?

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