

Restricting allomorphy without spell-out opacity*

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1. Introduction

Syntactic structure is typically understood to be transferred (i.e., *spelled-out*) to the interfaces in non-trivial chunks, also known as *phases*. Phasal spell-out is additionally taken to make portions of the structure opaque for further syntactic and post-syntactic operations (Chomsky 2000, 2001, 2008, Marantz 2001, 2007, Marvin 2002, Embick 2010, 2014, a.m.o.; Uriagereka 1999 for an important predecessor). Spell-out-induced opacity has been used to motivate and constrain phenomena ranging from successive-cyclic movement to allomorphy to stress assignment, among others (see Bešlin 2025a for a recent overview).

Contrary to traditional wisdom, some recent work has denied the claim that cyclic spell-out creates opacity effects, either in the syntax (Newell 2017, Bešlin 2025a, Sande, Clem, and Dąbkowski 2026) or in the phonology (Embick 2014, Newell 2017, forthcoming). Yet, theories of the syntax-phonology interface still invoke spell-out-induced opacity to account for patterns of (im)possible interactions among morphemes. For example, a standard account for why root-conditioned *n*-allomorphy is possible for nouns like (1a) and impossible for nouns like (1b) appeals to the phasal nature of the categorizer *v*, which is only found in the structure of gerunds (1b), as illustrated in (2) (see e.g., Embick 2010).

- (1) a. *free-dom, remov-al, marri-age, laugh-ter, divers-ity, strateg-y, ...*
b. *free-ing, remov-ing, marry-ing, laugh-ing, divers-ify-ing, strateg-iz-ing...*



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To account for the pattern in (1), cyclic spell-out (3) is augmented with (4), reminiscent of the weak Phase Impenetrability Condition (PIC, Chomsky 2001).¹ Taking categorial heads to be cyclic, (4) ensures that the root in (1b)/(2b) is not active in the cycle in which n is spelled out, explaining why the root cannot condition n 's contextual allomorph.

(3) SCHEMATIZATION OF CYCLIC DOMAINS (Embick 2014):

- a. Cyclic y merged in [y [X [Y [x $\sqrt{\text{ROOT}}\dots$]]]]
- b. Cyclic domain centered on x = [X [Y [x $\sqrt{\text{ROOT}}$]]] sent to interfaces

(4) ACTIVITY COROLLARY (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.

Note that, despite its name, the Activity Corollary in (4) is stipulative; it does not follow from (3) nor any existing formalization of spell-out. Namely, the existence of cyclic spell-out does not in any way entail the claim that spelled-out structure is opaque for further operations. Furthermore, while the spell-out domain of x in (3) includes x , its complement (the root), and everything in x 's extended projection, what is said to be inactive in the following cycle is only x 's complement. In this paper, I argue that spell-out-induced opacity is unnecessary in accounting for patterns of (im)possible allomorphy. Instead, I appeal to the concept of featural adjacency, which is also necessary in the domain of c-selection. Note that this short paper should be taken as merely a proof of concept step; detailed discussion of the full range of cases discussed in the literature must be omitted here for reasons of space (but see Bešlin in prep).

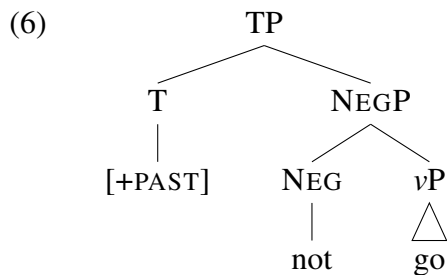
The paper is organized as follows: Section 2 presents the main proposal of the paper, putting it in the context of other existing proposals which attempt to restrict allomorphy beyond phasal spell-out. I argue that a particular notion of structural adjacency, namely *featural* structural adjacency, is necessary and sufficient to account for (im)possible patterns of allomorphy. Sections 3 and 4 discuss two kinds of cases of apparent non-local allomorphy. In section 3, I claim that the bulk of cases where non-local allomorphy has been proposed involve intervention by adjuncts. Since adjuncts do not project their features, I argue they cannot be interveners in the relevant sense. In section 4, I discuss seemingly non-local allomorphy in root-root compounds. I argue that this state of affairs is expected on the understanding that, when two roots merge directly, both of them are structurally adjacent—and therefore local—to the selecting head (Merchant 2019). Section 5 concludes.

¹In this paper I focus on showing that phase-induced opacity can be dispensed with because it cannot account for the observed allomorphy patterns on its own, and it becomes superfluous once the right kind of structural adjacency requirement is introduced. However, see also Bešlin 2025a: chapters 5-6, where I argue that locality domains required in the syntax and at the form interface are incompatible. Cyclic spell-out, I argue, is relevant at the form interface inasmuch as material spelled-out in higher cycles is not yet present when lower portions of the structure are spelled out. Such a notion of locality plays no role in accounting for what we think of as syntactic locality, which I argue is regulated solely by (featural) Relativized Minimality.

2. Proposal

It has long been noted that allomorphy must be limited beyond cyclic spell-out and spell-out-induced opacity. For example, while the English verb *go* exhibits past Tense-conditioned allomorphy (5a), such allomorphic conditioning never occurs if functional material such as negation intervenes between the two (5b), illustrated schematically in (6). This restriction is not explained by cyclic spell-out; *go* and the Tense features must necessarily be in the same spell-out domain given the existence of the form *went*. For further motivation to restrict allomorphy within spell-out domains, see the works cited immediately below.

- (5) a. Petra went to the cinema.
b. Petra did not go to the cinema.



Several ancillary mechanisms have been proposed to limit allomorphy to structurally or linearly adjacent elements, including: (i) structural adjacency (Adger, Béjar, and Harbour 2001, 2003, a.o.); (ii) linear adjacency (Embick 2010, a.o.); and (iii) accessibility domains, a claim that roots are visible up to the first node above the first categorizer–Y, but not X in (3) (Moskal 2015). In Bešlin 2025b I showed that there are apparent violations of each of these locality constraints in Bosnian/Croatian/Serbian (BCS) allomorphy. Others have also shown that one or more of the constraints in (i)–(iii) are empirically inadequate; I reference these works when relevant in the discussion below.

I argue that a version of structural adjacency is necessary and sufficient to account for the restrictions on allomorphy, allowing us to dispense with the Activity Condition as a remnant of the PIC at the syntax-phonology interface. I also claim that, in order to have the right empirical coverage, structural adjacency must be defined in featural rather than purely geometric terms (contra Adger, Béjar, and Harbour 2001, 2003). In addition to its empirical problems, the existing, geometric version of structural adjacency also fails on conceptual grounds: In order to allow for attested cases of allomorphy that is not immediately local, Adger, Béjar, and Harbour 2001 need a special provision, which they implement through the idea that allomorphy can also be triggered through Agree. However, since Agree is fundamentally a long-distance dependency, this proposal is too permissive and predicts all sorts of unattested patterns.

Instead, I argue that allomorphy is restricted via featural adjacency, (7).² The definition in (7) should make it clear that featural adjacency is not reducible to sisterhood or immediate dominance. What matters is not whether an element is structurally present, but whether it projects its features. By “projects its features”, I simply mean that its features are inherited upward onto the syntactic spine and therefore participate in determining the category and syntactic distribution of the resulting phrase.

- (7) In [A [... B]], A and B are featurally adjacent iff A and B are terms and the features of B are present on A’s sister.

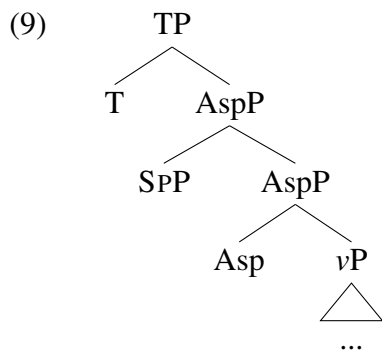
Understood as in (7), featural adjacency permits allomorphic interactions between heads and the heads of their complements (e.g., Harley 2014). It can also accommodate the non-intervening behavior of adjuncts (Section 3) and roots in root-root compounds (Section 4). On the other hand, it rules out allomorphic conditioning across a projecting head, accounting elegantly for (im)possible patterns of allomorphy in cases such as the ones seen in (1)/(2) and the many others which fall under the same rubric.³ Categorical heads necessarily project their features onto the spine of a tree like (2). Under the proposal in (7), such projecting heads interrupt featural adjacency between a root and a higher categorizer. This immediately derives the impossibility of root-conditioned allomorphy across categorizing heads, without requiring any appeal to spell-out-induced opacity. Hence, if the formulation in (7) is on the right track, it allows us to capture allomorphy patterns while (i) fully eliminating spell-out-induced opacity from the grammar in line with recent work, and (ii) eliminating the stipulation in (3)/(4) regarding when elements are spelled out versus when they become inactive at the form interface.

3. Adjuncts as non-interveners

I propose that apparent violations of locality systematically involve non-projecting material. Distributional facts show that elements claimed to not intervene for allomorphy frequently do not alter the syntactic category of their host phrase: They are adjuncts. Some such elements that have been discussed in the literature include the distributive (Kiowa, Bonet and Harbour 2012), negation in various domains (Kiowa, *ibid*, BCS, Bešlin 2025b), diminutive (Basque, Bobaljik 2012, BCS), and space marker (Nez Perce, Deal 2010, 2018). Importantly, I do not claim that these elements are universally adjuncts (and not, e.g., functional heads), but rather that they show adjunct-like behavior in languages where they have been shown to be transparent for allomorphy purposes.

²The conception of locality offered in (7) is also necessary in the domain of subcategorization/c-selection; see Hornstein 2024 for a discussion (and deduction) of its properties.

³Note that the present proposal may also be able to accommodate instances of allomorphic interaction between an adjunct/specifier and the head of the phrase it attaches to, though only in the case of small, internally simplex adjuncts/specifiers. If simplex elements are treated as potentially ambiguous between heads and phrases (e.g., Chomsky 1995), then a specifier/adjunct is featurally adjacent to the head it attaches to, because the features of the head are present on the specifier/adjunct’s sister. I will need to leave the detailed examination of potential such cases for future work; however, see Weissner 2019 for an analysis of Breton preverbal particles that requires this provision.

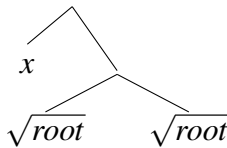


The same logic extends straightforwardly to the other apparent counterexamples discussed in the literature (e.g., distributives, diminutives, and certain negation markers in the relevant languages). While a full examination of these cases is beyond the scope of this paper, the generalization appears robust: An element will be transparent for allomorphy purposes precisely in those environments where it behaves syntactically like an adjunct.

4. Root-root compounds

Another structural configuration that shows transparency for allomorphy purposes is 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 BCS (Bešlin forthcoming). Although authors differ in the representations they assume for these elements, I take them to involve merger of two (or more) roots prior to categorization, as in (10).⁴ I argue that root-root compounds involve merger of uncategorized roots in a configuration where neither root uniquely projects. In such structures, both roots remain simultaneously accessible to the first categorizing head.

(10)



For example, Merchant 2019 discusses L-selection in English in cases of complex words involving prefixes. In (11b-c), the identity of the PP complement depends on the interaction of both roots rather than on either root alone. Contrasting (11a) and (11b) shows that the root $\sqrt{\text{TRUST}}$ does not uniquely determine the selectional properties of the resulting word in (11b). Likewise, contrasting (11b) and (11c) shows that the root $\sqrt{\text{DIS}}$ does not do so either. Rather, the compound as a whole participates in determining the selectional profile, suggesting that both roots remain structurally visible at the point where selectional properties are computed.

- (11)
- a. trust in/*of the establishment
 - b. dis-trust of/*in the establishment
 - c. dis-pleasure with/*of the establishment

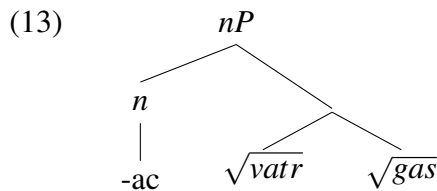
We can show that the same general pattern holds in the domain of contextual allomorphy.⁵ In order to demonstrate this, I will present data from BCS root-root compounds, omit-

⁴Merging morphemes prior to categorization is not frequently considered in modern DM, though I am not aware of any reason why it would be prohibited (see Marantz 2007 who capitalizes on the idea that morphemes can be merged before or after categorization to different effect).

⁵The similarities between L-selection and allomorphy should not go unnoticed. It is possible that they reduce to the same principle, given that they (i) appear to have very similar locality profiles and (ii) each concern the determination of one element's form by another element. For reasons of space, I leave the detailed analysis of this issue for future research.

ting many details for reasons of space (see Bešlin forthcoming for discussion and comparison to compounds that involve two categorized elements). In BCS root-root compounds, the choice of nominalizing allomorph cannot be predicted from either root in isolation. Instead, both roots appear to condition the form of the categorizer together; in (12a)-(12c) compare the form of the nominalizer in the compound with the form of the nominalizer that surfaces when only the first or second root is nominalized. In (12d), represented in tree form in (13), I provide an example of a compound whose constituent parts cannot form a simplex agentive noun independently at all. This demonstrates most clearly that it is the combination of the two roots that determines both selectional possibilities and the allomorph of the first categorizer.

- (12)
- | | | |
|----|------------------|----------------------|
| a. | dub-o-rez-ac | (cf. rez-ač) |
| | deep-L-carve-N | cut-N |
| | ‘woodcarver’ | ‘carver’ |
| b. | zemlj-o-rad-nik | (cf. zemlj-ak) |
| | earth-L-work-N | earth-N |
| | ‘farmer’ | ‘countryman’ |
| c. | drv-o-seč-a | (cf. sek-ač) |
| | tree-L-cut-N | cut-N |
| | ‘woodcutter’ | ‘cutter’ |
| d. | vatr-o-gas-ac | (cf. none available) |
| | fire-L-put_out-N | |
| | ‘fire-fighter’ | |



Hence, when multiple roots merge, neither is seemingly ‘cut off’ from the first categorizer. If we took these kinds of compounds to be created in the usual way, with one element projecting their features to the resulting structure, the allomorphy pattern we observe could not be explained under any existing notion of locality. However, if neither root projects, no projecting head intervenes between either root and the categorizer. Both roots are therefore featurally adjacent to the categorizing head. The apparent non-locality disappears once these kinds of compounds are understood as involving multiple simultaneously accessible roots rather than ordinary hierarchical projection.

5. Conclusion

This paper has argued that restrictions on allomorphy need not appeal to spell-out-induced opacity. In turn, we can dispense with additional stipulations found in those accounts concerning which portions of spelled out structure remain active for subsequent interface op-

erations. I proposed instead that allomorphic interactions are constrained by featural adjacency: two elements may interact only if no projecting head intervenes between them. This conception of locality derives the familiar restriction against root-conditioned allomorphy across categorial (and other projecting) heads while simultaneously accounting for apparent counterexamples involving adjuncts and root-root compounds.

The proposal has both empirical and conceptual advantages. Empirically, it captures patterns which are problematic for linear adjacency, geometric structural adjacency, and accessibility-domain approaches. Conceptually, it unifies locality restrictions on allomorphy with independently motivated restrictions on c-selection and eliminates the need for interface-specific opacity conditions. Of course, much remains to be investigated. In particular, a fuller empirical survey is necessary to determine whether all apparent violations of locality reduce to cases where intervening material fails to project relevant features. Nevertheless, the discussion here suggests that the explanatory burden traditionally placed on cyclic spell-out may instead belong to independently necessary principles governing feature projection and structural adjacency.

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