

Morphology or Phonology? What gets spelled out.

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Abstract

The surface phonological form of a linguistic item (morpheme, ‘word’, etc) may vary at two points in a realizational framework. First, it may be subject to restrictions on Vocabulary Insertion at spell-out (morphology/allomorphy). Second, it may be subject to phonological computation (phonology). Whether an alternation is morphological or phonological has an impact on how we construct our theories of linguistic computation. In this presentation I will go over some recent work proposing that phonology can account for alternations traditionally presumed to be morphological (or morphophonological in frameworks that allow for entities such as readjustment rules) and discuss how this impacts our theories of morphosyntax and spell-out.

1.0 *Outline*

- 2.0 Basic assumptions: URs, Allomorphy, the PF branch, Diacritics, Phonology
- 3.0 Pronouns
- 4.0 English Level 1 vs Level 2 phonology
- 5.0 Bracketing Paradoxes
- 6.0 More considerations, summing up

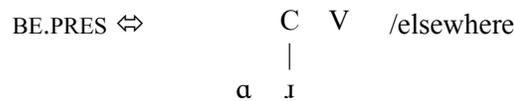
2.0 *Basic assumptions: URs, Allomorphy, the PF branch, Diacritics, Phonology*

I work within a fully realizational, modular framework. It might be wrong, but it makes predictions.

2.1 *URs*

- Phonological URs per morpheme can be single or multiple.
- Each UR is an autosegmentally (under)specified form, and precision about this phonological form is key in determining what is or is not allomorphy.

- (1) a. BE.PRES ⇔ C V /3SG
 |
 ɪ z
- C V /1SG
 |
 æ m



In (1) the segmental/syllabic URs are determined by allomorphy, but the variation in initial vowel pronunciation ([ajæm] vs. [ajm]) is due to the phonology.

2.2 Allomorphy

- Allomorphy is conditioned locally, within a cycle (phase).
- Spanning/Domain Suspension are considered licit. (Bobaljik & Wurmbrand 2013, Merchant 2015, Svenonius 2016, Nanosyntax (Baunaz et al. 2018))
- First phase heads are inside the domain of the root.
- Phonologically conditioned allomorphy can only be inward.
- Syntactically conditioned allomorphy can only be outward (or does not exist, see Nanosyntax).

2.3 The PF branch, diacritics

- Spell-out is effected via ‘snapshot’ (copy). The syntax is unaffected by spell-out.
- Step 1 of spell-out is Vocabulary insertion (allomorphy, which can be vacuous).
 - URs are phonological only. Diacritics are not phonological, and therefore cannot survive spell-out.
- Step 2 of spell-out is Phonology.
 - Phonology is the regular application of phonological operations. I assume a system of rules/non-violable constraints make up the phonological computational grammar of a language (I’m old-school that way, but see Newell 2018, Newell under review for discussions of the similarities/differences between the old school and stratal OT)
 - As no diacritics have survived to this point (if they ever existed) the phonology cannot refer to them. This is also true for morpho-syntactic features, and so excludes morpheme-specific phonologies (à la co-phonologies by ph(r)ase (Sande et al. 2020))

2.4 Phonology

- Phonology = representation + computation (two separate components)
 - Representation : I work within CVCV phonology (Lowenstamm 1996, Scheer 2004). See (1).
 - CVCV is an autosegmentally-based representation that includes aspects of Government Phonology (its progenitor), namely the application of the forces of *government* (lenition) and *licencing* (fortition).

- Important for today: all ‘syllable’s are CV units. Segments may float. CV positions may be empty. Segments must link to CV structure to be pronounced. CV structure is lexicalized (part of the UR).
 - Computation : Cycles/phases. Government and licencing are applied from right to left.
 - The phonology does not determine cycles independently of syntax. Therefore, syntactic cycles must be small.
 - Computation may insert/delete pieces of representation. This may include segments, association lines, and CV units.
 - CV units are inserted cross-linguistically in positions of stress and at the left edge of cycles.

3.0 *Pronouns*

Much work has been done on weak/strong pronoun pronunciation (ex. Cardinaletti & Starke (1994), Selkirk (1996), Zec (2005), Tyler (2019)). On the phonological side of things, allomorphy or diacritic-based has ruled. We don’t think that captures the patterns, within languages, or cross-linguistically.

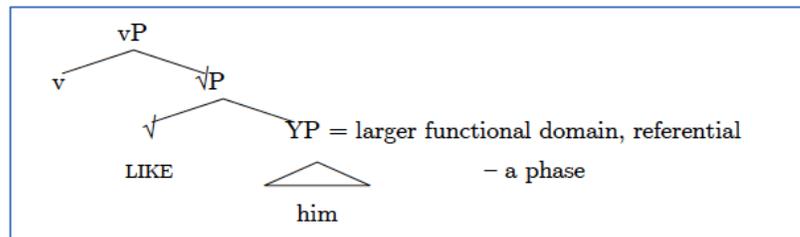
3.1 *Newell & Scheer (2021, in prep): The syntax determines pronominal pronunciation, but it’s not always allomorphy.*

- Ito & Mester (2018), for example, propose that function word alternations are always allomorphs, as not all function words alternate productively. They note this specifically for auxiliaries (*could* can reduce to ‘d but *should* cannot) but extended it to pronouns at a talk at RecPhon in Barcelona in November 2019.
- Selkirk (1996) proposes that phonological constraints just don’t apply to function words (so they don’t need to project PWds or be stressed)
- Zec (2005) and Tyler (2019) propose that pronouns have multiple allomorphs that are specified as PWds ajoiners or not in the lexicon (a combination of the previous two accounts). (ex. 3.sg.fem ⇔ həɪ or [[_{Pwd}] əɪ])

3.1.1 *English*

Pronouns have varying syntactic behaviours (ex. Cardinaletti & Starke 1994)

(2) a.



(5) The reduced form [m]:

Phase 1: Spell out of the verb.



Phase 2: Spell out of the pronoun: material spelled out on a previous cycle is visible.



him is not at a linear left edge, and the structure it is linearized with already contains stress. No accessible CVs are inserted. We can talk about the weird status of FENs (Final empty nuclei, like the final V in the representation of *like*) and why they are sometimes inaccessible, if we have time. There are some hurdles to jump here, but perhaps the vowel does link there, or the syllabic *m* links to the left.

3.2 Hebrew

(6)

Possessive pronouns				
person	number	gender	full	reduced
1	sg		ʃelí	ʃlí
	pl		ʃelánu	ʃlánu
2	sg	m	ʃelχá	ʃχá
		f	ʃeláχ	ʃláχ
	pl	m	ʃelaxém	ʃχém
		f	ʃelaxén	ʃχén
3	sg	m	ʃeló	ʃló
		f	ʃelá	ʃlá
	pl	m	ʃelaém	ʃlaém
		f	ʃelaén	ʃlaén

Extra support for a non-allomorphic account that is not as apparent in English (but is slightly so). Pronouns are multimorphemic. That they are not single lexical items is readily apparent in many languages (so any allomorphy in such a pronominal system must be phrasal). As reduction is proposed in allomorphic accounts to be due to restrictions on function *words* it is unclear how allomorphy of one morpheme in the pronoun can be incorporated into such an analysis.

(7)

Possessive pronouns				Acc	Loc
person	num	gender	full		
1	sg		ʃelí	otí	lí
	pl		ʃelánu	otánu	lánu
2	sg	m	ʃelχá	otχá	leχá
		f	ʃeláχ	otáχ	láχ
	pl	m	ʃelaχém	otχém	laχém
		f	ʃelaχén	otχén	laχén
3	sg	m	ʃeló	otó	ló
		f	ʃelá	otá	lá
	pl	m	ʃelaém	otá _m	laém
		f	ʃelaén	otán	laén

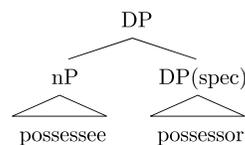
The person suffixes may also affix directly to the noun in formal registers

- (8) a. ʃif're 'books'
 ʃfara-j 'my books'
 ʃfa're-χa 'your books'
 ʃfare-nu 'our books'
- b. dirat 'apartment'
 dirat-i 'my apartment'
 dirat-χa 'your apt.'
 dirat-enu 'our apt.'

Environments for full and reduced pronouns:

(9)

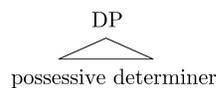
Adjectival possessive (My X)



Hebrew:

hasefer ʃlaém
 'their book'

DP possessive (Mine)



ʃelaém
 'theirs'

4.0 *English Level 1 vs Level 2 phonology*

The problem with level-based phonology is that it smuggles another diacritic into the phonology, namely ‘class’.

4.1 *Background*

In Newell (2021a) I propose that Level 1 vs Level 2 affixes can be re-analysed as affixes that have, or do not have, floating initial vowels. See the article for so many references because so many people have worked on this.

The classic distinction between Class 1 and 2 is as follows:

- (12) a. párent
b. paréntal (presence of stress shift)
- (13) a. párent
b. párenthood (absence of stress shift)

The pattern is as follows:

- (14) The Level 1/Level 2 pattern
 - (i) Affixes may have cohering, non-cohering, or variable phonological behaviour.
 - (ii) All affixes behave as cohering when affixed directly to an uncategorized root.
 - (iii) When an affix attaches to an already-categorized (complex) stem, it will display invariable morphophonological behaviour: it will always behave either as a cohering or as a non-cohering affix.

Put differently, affixes in English display only 2 patterns. Either an affix displays uniformly cohering behaviour, or an affix displays cohering behaviour when affixed to a root and noncohering behaviour elsewhere.

Note that this pattern is not predicted under a class-based analysis. Why don’t we have any affixes that are non-cohering when merged to a root, and cohering when merged outside another affix?

The solution? Two pronged:

Representational: Affixes are either cohering (they have an initial floating vowel) or non-cohering (they don’t).

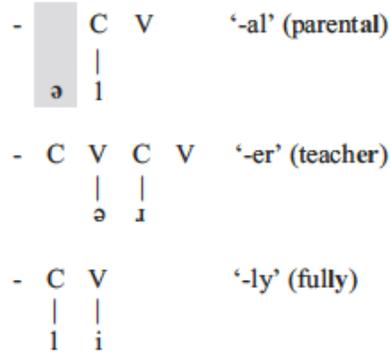
Computational: Morphemes spelled out in the same cycle behave as a single phonological domain independent of their URs.

4.2

The derivations

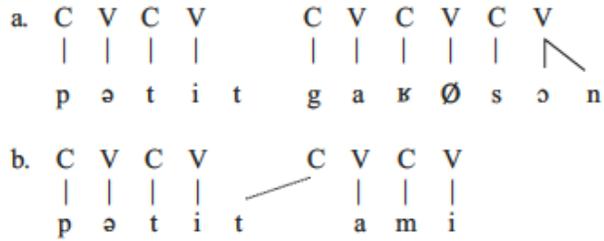
The URs:

(15) *al* = cohering, *er* and *ly* = non-cohering. All cohering suffixes are V-initial.



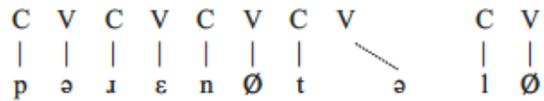
An aside on the accessibility of previously spelled out phonological domains (aka There is no PIC) (see also infixation, among other phenomena, but note the FEN issue discussed above).

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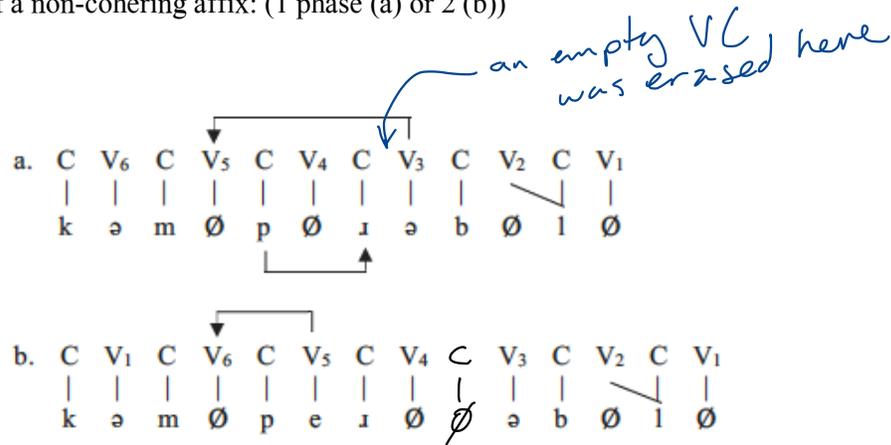
Derivation of parental: (1 phase or 2 – not determinable phonologically)

(17)



Derivation of a non-cohering affix: (1 phase (a) or 2 (b))

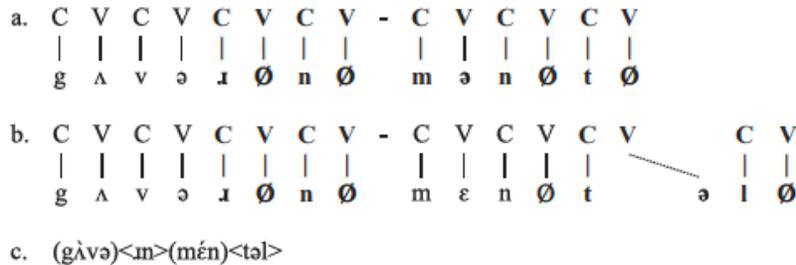
(18)



Derivation of a cohering affix outside of a non-cohering affix (3 phases)

(19)

[[[[govern]_v Ø]_v ment]_n al]_a



4.3 The status of derivational affixes: They're not roots

But Lowenstamm (2014) was right about needing more than phases/DM to get the pattern right.

DM+Phases predicts that all affixes merged outside of a phase will be non-cohering. It cannot solve the Level 1/Level 2 problem (even though some work has implied that it can (Marvin 2002, Arad 2003 etc.)). These earlier works only solved the *cOmprable/compArable* issue.

4.4 Conclusion

Class specification of affixes is akin to allomorphy or readjustment rules in the phonology. A modular theory cannot countenance such accounts. Luckily, we have independently-motivated phonological structures that will do the job. English, like French, has a phonological grammar that includes liaison.

5.0 *Bracketing Paradoxes*

BPs are another domain where many ad-hoc solutions have been proposed over the years. In line with the analyses above, Newell (2021.b) offers a simple phonological analysis of these data. Please see this article for all of the important references, and for even more see Newell (2019) for an overview of the history of BP analyses.

5.1 *The issue*

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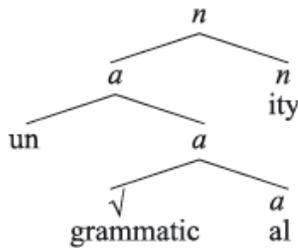
Note that CVCV phonology contains no hierarchical structure (not that some people haven't tried to combine CVCV and the Prosodic Hierarchy, but we're only willing to go there if we're convinced that the PH exists, and we are not).

The BP problem is inherently linked to the PH (and they emerged, therefore, concurrently). The problem is, how can one derivation necessitate two contradictory hierarchical analyses?

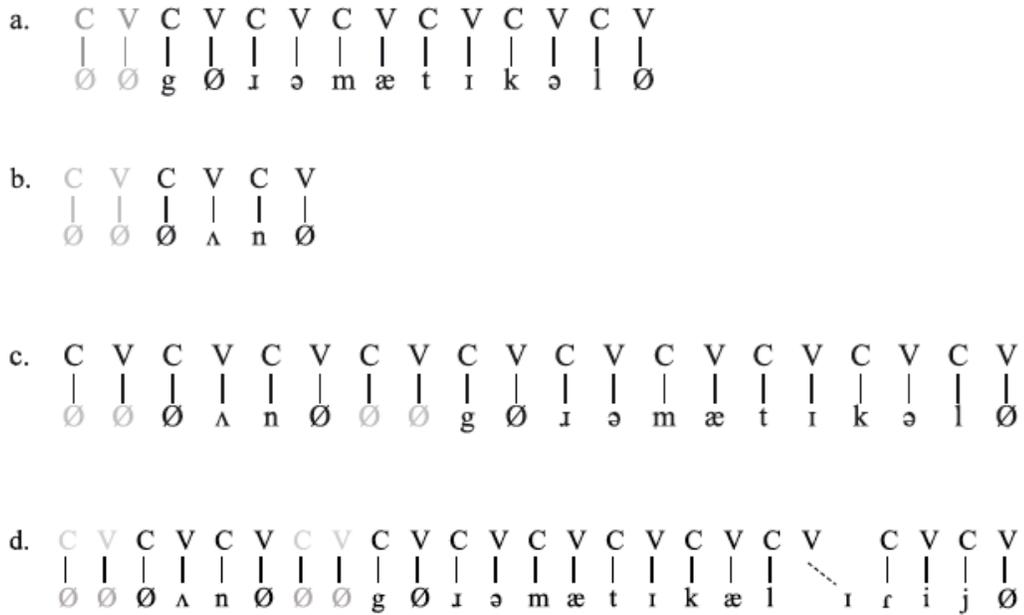
The answer: No derivation necessitates two contradictory hierarchical analyses. The phonology is flat. Spell-out just goes along, doing its thing, and gets everything right.

5.2 *Some derivations*

(21) English level-ordering BPs

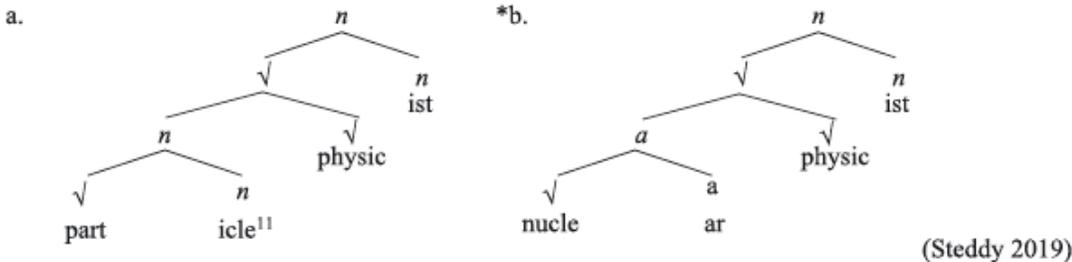


(22)



The lack of place assimilation between the nasal and stop is explained via cyclic insertion of left-edge CVs. The stress-attraction by the outer affix is due to liaison.

(23) English compound BPs (vs phrasal derivations that are not BPs at all)



(24)



(25)



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