

The Phonology-Syntax Interface

Interactions Between Theory and Analysis

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Part 2

Cyclic spell out : What evidence do we have?

- ▶ Today we're going to focus on the phonology.
- ▶ Why can't we just spell it all out at the end of the derivation?
- ▶ Isomorphism vs non-isomorphism.
 - The Prosodic Hierarchy 'solution'
 - The Stratal 'solution'.
 - The Phasal 'solution' (+/- The initial CV).
 - The Phasal + Narrow Phonology solution (+/- The initial CV).

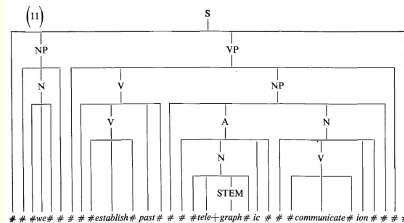
A brief history of phonological domain delimitation.

(See Scheer (2010) for much more detail on this history.)

SPE to the PH

The Sound Pattern of English (SPE)

- ▶ Phonological domains are delimited by ‘non-segmental segments’: +, #
- ▶ These non-segmental segments are inserted into the string via a mapping from the syntax.

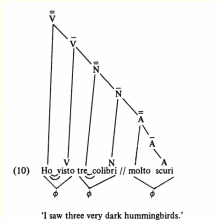


- ▶ Non-segmental segments were a signal to the system to start applying phonology cyclically from the inside out.
 - + : *telegraph*
 - # : *telegraphic. communication, established*
 - ##, ### etc... *telegraphic communication, established, we, established telegraphic communication, we established telegraphic communication*

SPE to the PH

The Prosodic Hierarchy (PH)

- ▶ It was argued that ‘non-segmental segments’ were illegal objects in the phonology.
- ▶ It was proposed that there were no objects in the string, but rather there was a hierarchical structure specific to the phonological computations (e.g., Selkirk (1984); Nespor & Vogel (1986/2007)).



- (1) Raddoppiamento Sintattico (Nespor & Vogel, 1986/2007, 171)

[Ho [v:]isto]_φ [tre [k:]olibri]_φ // [molto scuri]_φ

- ▶ Rules could still reference the edges of domains, but these edges were no longer ‘objects’.
- ▶ **Non-isomorphism:** It was argued that the prosodic domains $\neq$ syntactic domains.
- ▶ See Cinque (2004) on how that is not true for this type of example, and Newell (2017) on how this is not true for almost all examples in Nespor & Vogel (1986/2007).

Different phonologies for different domains

Lexical Phonology and Morphology (LPM):

The definition of cycles

- ▶ Initial work in LPM (Kiparsky, 1982; Mohanan, 1982) proposed 3 levels, Stratal OT (Bermúdez-Otero, 2017) maintains this: stem, word, phrase.
- ▶ Morphemes have class diacritics (Level 1, Level 2...)
- ▶ Each level can have distinct rules / rule ordering / constraint ranking.
- ▶ Levels are quasi-morphosyntactic, and come from a lexicalist origin.
- ▶ The assignment of a morpheme to a level is based on a mix of order of attachment and phonological behaviour.
 - Items added earlier to the base = lower level
 - Argued against fairly immediately in Fabb (1988), and see Giegerich (1999), but the debate is still ongoing (Lowenstamm, 2014; Newell, 2021, for example)

A return to the syntactic motivation for cyclic phonology

Phases

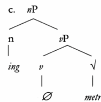
- ▶ The latest in a long line of syntactic solutions for the locality of movement (why it occurs with intermediate steps instead of in one fell swoop).
- ▶ The first of these to come with a procedural interface component in a non-lexicalist framework: Phases are sent to PF and LF.
- ▶ Beginning of a long line of phase-based interface studies in phonology (Marvin, 2002; Newell, 2008; Pak, 2008; Samuels, 2009, etc.).
- ▶ We still don't know how to define a phase, but the domains converge on (1) category-defining heads, (2) DP and CP, (3) somewhere near voiceP. See Newell (in press) for an overview and a discussion of how to approach phase-based phonology carefully.



→ syllabification and schwa-insertion process within nP →
→ spell-out of $\sqrt{\text{metr}}/\text{mɪtər}/$



→ syllabification process within aP , no schwa-insertion
→ spell-out of $\sqrt{\text{metr}}/\text{mɛtrɪk}/$



→ schwa-insertion already negotiated at the phase sP → n
cannot influence the spell-out of $\sqrt{\text{metr}}/\text{mɛtrɪk}/, /mɪtərɪŋ/$

→ schwa insertion and syllabification within sP →
spell-out of $\sqrt{\text{metr}}/\text{mɪtər}/$

(Marvin, 2002, 37)

Let's do some derivations

meter, metric and metering

- ▶ Using the PH, LPM, Phases, and then the phono + phases of Newell (2021)
- ▶ We're going to assume that *-ic*, *-ing*, and *meter* are segmentable to English speakers.

2-Level affixes

- ▶ What about :
 - *twinkling* 'a short moment' (the time it take to twinkle) (2 syllables) and *twinkling* 'the act of twinkling' (3)
 - *comparable* 'similar' (2) and *comparable* (3) 'able to be compared'
 - *perceptible* 'being perceived' and *perceivable* 'able to be perceived'

Or, other, productive same-affix derivations?

(2) Acholi inalienable possessives

a. /bad-na/ → [bada]

leg-1SG

My leg.

b. /bep-na/ → [reɸa]

liver-1SG

My liver.

(3) Acholi alienable possessives

a. /bad-na/ → [badda]

leg-1SG

My leg (alienable)

b. /bep-na/ → [reppa]

liver-1SG

My liver (alienable)

A note on Possessives:

- ▶ When languages distinguish (in)alienable possession they show cross-linguistic consistency:
 - Alienable constructions are structurally bigger. Possessive affixes appear, and the possessive morphemes are not in the same phonological domain as the base.
e.g., /ni-o:gima:-im/ → [nido:gimam] '1-leader-POSS' vs. /ni-o:komis/ → [no:komis] 'my grandmother' (Ojibwe)

Complex Left Branches

prefixes vs suffixes

- ▶ Prefixes are less common than suffixes cross-linguistically, and are often semantically and phonologically compositional and isolable.
- (4)
 - a. English: nòn-morá-ic (stress, cf. *móra*)
 - b. French : anti-alcool (hiatus)
 - c. Portuguese : pré e pós campanha eleitoral ‘pre- and post- electoral campaign’ (conjunction, stress)
- ▶ Of course, this ‘separate domain from the base’ behaviour is not always the case, at least on the surface, ((5), and the Ojibwe prefix example), and the same can be said for suffixes, as we have seen.
- (5)
 - a. English: il-legal (assimilation)
 - b. French : enamoré (liaison without nasalization)
 - c. Portuguese : pretéxto ‘excuse’ (no stress, idiomaticity)
- ▶ But, there is a strong tendency for prefixes to be less cohering with their bases, which has been argued to go hand-in-hand with a larger tendency...

Complex Left Branches: Adjuncts and specifiers vs the trunk of the tree

In (6a) and (7a) we see the ‘normal’ phonological behaviour of specifiers and adjuncts. In the (b) examples we see some interesting complications. Let’s discuss.

Specifiers as separate phonological domains

(6) French liaison and nasalization

- a. **Les** **amies** **aiment** **le** **hockey**
 [DET.PL friendFEM-PL]_{nP} [like-PRES.3PL DET hockey]_{vP}
 [lezami ɛm lə ɔke]
- b. Elles **aiment** le hockey. → [ɛlzɛm lə ɔke]

Adjuncts as separate phonological domains

(7) Footing and epenthesis in subminimal cycles in Ojibwe

- a. _{vP}[_{aP}[**bi-i**] _{vP}[**a:gamose:**]] → (bi)(a:)(gamo)se: (cf. The RS example)
 there walk.in.snowshoes
 ‘He walks there in snowshoes’
- b. _{CP}[**ni** _{vP}[**a:gamose:**]] → (ni**da:**)(gamo)se
 1 walk.in.snowshoes
 ‘I walk in snowshoes’ (cf. ga**da:**gamose: [FUT] and gi:a:gamose: [PST])

Conclusions of Part 2

Correlation, and causation?

- ▶ There is a correlation between being low in the structure and being inside the phonological domain of the base.
 - There are distinctions in spell-out domains within a workspace / command structure.
- ▶ There is a correlation between being a CLB and being a separate phonological domain.
- ▶ This correlation seems to break down in a way that also shows correlations.
 - Smaller specifiers are less ‘separate’.
 - This does not seem to be the case for adjuncts.
- ▶ To account for these distinctions, DM generally appeals to cycles determined by the syntax (phases).

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