

Crafting a Russian Doll
Phonological computation as an indicator of structural change

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This talk is situated within the longstanding debate over how to account for cyclic effects of derivation in either the phonology or the morphosyntax. I will discuss how phonological conspiracies lead us to a simpler, more representational account of phonology in general. In particular, I will demonstrate how (at least some of) a well-known pattern in cyclic phonological computation may be epiphenomenal. The relevant pattern is the apparent necessity to postulate *different phonologies* at each cycle of PF interpretation. This has taken the guise of Level 1/Level 2 rules (Lexical Morphology and Phonology), constraint re-ranking / co-phonologies (Optimality Theory), or domain-specific rules (Prosodic Phonology). This is clearly not without reason; we have abundant evidence for different processes occurring in different cycles. The question this raises, however, is *why*.

In this talk I will focus on explaining an aspect of Bermúdez-Otero's Russian Doll Theorem (RDT):

Let there be the nested cyclic domains $[\gamma \dots [\beta \dots [\alpha \dots] \dots] \dots]$. If a phonological process p is opaque in β because its domain is α , then p is opaque in γ .

(Bermúdez-Otero 2011: 2023)

The RDT notes an intriguing pattern in cyclic rule application – once a rule is ‘turned off’ in a derivation, it doesn't turn back on again in a later cycle.

I would like to note, and capitalize upon, a parallel pattern in syntactic computation. In Minimalist syntax it is generally posited that there are very few operations; merge, copy, agree. These are all active in every cycle; there are not different syntaxes within each phase. If we consider a single syntactic item, however, we can see a syntactic rule ‘turning off’. A morpheme/feature may move/copy multiple times (in a phase-based framework) before having its relevant feature valued. But, it stops moving once that feature is valued. *Why?* Because it is now a different (valued) item.

Just as feature valuation changes the makeup of a syntactic item, rendering it no longer a target for copy/agree, phonological computation changes the makeup of a phonological item, making it no longer a target for certain rules.

This is, of course, not a new proposition, but it is one that is not widely applied recently except in terms of ‘cyclic faithfulness’. Why is it interesting? If rules in the phonology ‘turn off’ due to changes effected by the phonology itself, this (i) allows for a deeper explanation of why a rule ‘turns off’, and (ii) gets us closer to a phonological module that does not contain different algorithms at each level; a goal I believe we should be striving harder to achieve.