Sam Steddy, Queen Mary UL
s.steddy@qmul.ac.uk

Suppletion in a Single Cycle

1. Distributed Morphology assumes a theory of categorisation-triggered *Spellout by Phase* to explain certain cyclic phonological effects. A well-known example is Marvin's (2002) account of a correlation between (the lack of) epenthesis and idiosyncratic interpretation (as derived by √root-affixation, Arad 2003). Suffixation of a verbalised structure entails an inner cycle in which syllabification requires epenthetic [ə], which is carried over to later cycles.

(1) a. √twinkl -ing$_n$ → (twiŋ.kliŋ)   twiŋ.kliŋ   'the *twinkling* of an eye'
   b. [√twinkl ø$_v$] -ing$_n$ → (twiŋ.kəl)(iŋ)   twiŋ.kə.liŋ   'the stars' *twinkling*'

In contemporary phonology, an ongoing debate questions whether similar effects follow from derivation that proceeds in cycles or in parallel (Bermúdez-Otero 2017; Steriade 2012; both et prev). To explain certain issues with *Cyclicity* and *Phonological Parallelism*, I propose a theory of *Transderivational Correspondence* (Benua 1997; Kager 1999), as conditioned by DM-based structure. This allows the claim to be made that morphosyntax spells out in a single cycle.

2. Current theories of **suppletion** (Bobaljik 2012; Moskal 2015), and in particular non-locally triggered morphological allomorphy, are problematic for theories of cyclic spellout.

(2) a. **go** → ***went*** $[[\sqrt{go}\ ø_v\ ]\ \text{PAST}]$
   b. **bon**-us → ***opt**-imus* $[[[\sqrt{good}\ ø_a\ ]\ \text{CMP}\ ]\ \text{SPR}]$ (Latin: *good → best*)

In (2), while outer suffixes trigger suppletion, categorisation should cause spellout of inner structure, making it inaccessible to change. To resolve this, Moskal proposes an edge effect whereby the first morpheme outside a categoriser may still condition suppletion (this falters if the structure underlying Bobaljik's ABC suppletion pattern contains a categorised adjective, as in (2b), Arregi & Nevins 2014). Alternatively, Bobaljik & Wurmbrand (2013) propose a theory of *Domain Suspension* wherein spellout is delayed just in the case a √root may interact with an outer affix for suppletion. I pursue an alternative analysis based on parallelism and *containment*.

3. The **inaccessibility** of an inner cycle is often taken as the reason Level II suffixes are stress-neutral: unlike inner Level I suffixes, they attach outside a domain in which stress is assigned.

(3) átom → atóm-ic$_I$ *but*   átom-ish$_{II}$ (Nevins 2016)

In purely phonological accounts, both cyclic and parallel theories struggle to explain why there is no similar domain effect between base and LI-affixed forms. After Marvin, DM provides a cyclic, structural reason for this: LI suffixes take √root complements, which they are spelled out with by virtue of being a √root's initial categoriser. LII suffixes take categorised complements, so (re)categorise constituents in which stress has already been assigned.

4. LI affixation's lack of base correspondence appears problematic for **parallelism**, wherein the independent existence or derivation of an affix's complement may condition exceptional faithfulness effects. Appeal is made to constraint reranking between derivations and/or levels, though Bermudez-Otero develops a contemporary, phonological *stratum*-based theory, which DM in fact complements. As it involves √root-attachment, LI affixation creates structures isomorphic with 'simple' base forms with a null categoriser. In other words, the noun *átom* **and** the adjective *atómic* are built on the root √atom, but the adjective *átomish* is built on the noun.

(4) a. n^o b. a^o c. a^o

     √atom   -ø$_n$ √atom   -ic$_a$ n^o -ish$_a$

                                                            √atom   -ø$_n$

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To complement these structures, a strictly structural interpretation of Kager's (1999) OT implementation of Brame's (1974) *Natural Bracketing Hypothesis* is adopted:

(5)　　i. The Base is a free-standing output form (ie. a word)
　　　　ii. The Base ~~contains a subset of the features~~ **is a subconstituent** of the derived form

It is now possible to develop an analysis of the effects seen in (3) that does not depend on cyclic spellout. In this analysis, base containment is crucial for correspondence, contra Steriade, at least in this case, but contra Bermúdez-Otero, this is not taken as evidence against parallelism.

5. Given limitations of space, the derivation of **level effects** can only be coarsely sketched here. Significantly, *atom* and *atomic* are derived by the same phonological system: let this be imperfectly reduced to a constraint specifying penultimate stress. *Atomish*, by contrast, shows correspondence as it contains *atom*, a noun meeting the criteria in (5). There is no similar correspondence for *atomic* as it does not contain the noun *atom*, only the bound root $\sqrt{\text{atom}}$.

(6)　　$\mathcal{F}$B (Base Faithfulness):　　Stress should fall on the same syllable as in the Base
　　　　PEN (Penultimate Stress):　　Stress should fall on the penultimate syllable

(7)　a.

$\sqrt{\text{atom-ø}_n}$	$\mathcal{F}$B	PEN
i. ☞ átom		
ii.　atóm		*!
BASE: ‹ ›		

b.

$\sqrt{\text{atom-ic}_a}$	$\mathcal{F}$B	PEN
i.　átomic		*!
ii. ☞ atómic		
BASE: ‹ ›		

c.

[$\sqrt{\text{atom-ø}_n}$]-ish$_a$	$\mathcal{F}$B	PEN
i.　☞ átomish		*
ii.　atómish	*!	
BASE: átom		

6. Categorisation therefore does not cause **spellout**, but creates constituents which induce correspondence. This obviates the need for cyclic spellout, making $\sqrt{\text{roots}}$ *accessible* (for suppletion) to non-local structure. This does not, though, explain the loss of correspondence effects with suppletion. That is, despite containment, why does *went* not correspond with *go*?

Suppletion is defined as a substitution operation, which in DM has been argued to apply to $\sqrt{\text{roots}}$, terminals, lexical entries, or indices (if/where these are distinct, Faust 2014). If taken as a structural change, this alters the input to phonology at the same time as violating containment. To illustrate, let this change be represented as the explicit substitution of one $\sqrt{\text{root}}$ for another. The output of a suppletion rule applying to $\sqrt{\text{go}}$ (9b), therefore, is a structure containing $\sqrt{\text{went}}$ (9c). This structure no longer contains the verb *go*, meaning that *go* cannot serve as a base for *went*. The derivation therefore shows no correspondence, and the output is faithful to the input (or conceivably, in this case, to the corresponding diachronic verb *wend*).

(8)　　$\mathcal{F}$B (Base Faithfulness):　　The output should match the Base
　　　　$\mathcal{F}$I (Input Faithfulness):　　The output should match the Input

(9)　a.

$\sqrt{\text{go-ø}_v}$	$\mathcal{F}$B	$\mathcal{F}$I
i. ☞ go		
ii.　went		*!
BASE: ‹ ›		

b. *Suppletion conditioned by* PST

$$\sqrt{\textbf{go}} \rightarrow \sqrt{\textbf{went}} / \underline{\quad}\text{-ø}_v]\text{-PST}$$

c.

[$\sqrt{\text{went-ø}_v}$]-PST	$\mathcal{F}$B	$\mathcal{F}$I
i.　go(-ed)		*!
ii. ☞ went		
BASE: ‹ ›		

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