

Functional vs Lexical Structure without the Prosodic Hierarchy

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Goal of the talk

To discuss an alternative to the Prosodic Word. The specific alternative to be discussed is CV-space/the timing tier. It is contended that if PW-effects are analyzable via the CV-tier that the PW is an unnecessary analytical tool. It is argued that the data converges toward the need for a non-PW explanation for ‘word-sized’ phenomena.

Outline of the talk

1. Arguments for the PW
 - a. Non-isomorphism
 - b. Domains of rule application
2. Arguments against the PW
 - a. Alignment as non-modular
 - b. PW is a diacritic
 - c. Affixhood is (sometimes) lexicalized, sometimes motivated beyond the PW
 - d. Bracketing Paradoxes
3. Arguments for the intervention of CV space
 - a. Stress
 - b. Edges
4. Some (more) applications of [CV phonology + phase sizes] to stress and edges
 - a. Reduplication and BPs.
 - b. Ojibwe epenthesis
 - c. Turkish: PW vs PW adjoiners/clitic group (a relevant aside)
5. Pronouns and different kinds of Stress.
 - a. What do we assume about the morpho-syntax of pronouns?
 - b. What do we assume about the lexical representations of functional items?
 - c. What do we assume are possible triggers of CV-insertion?
 - d. A preliminary analysis of function word stress; pronouns
 - e. A note on focus marking (another relevant aside)
6. Conclusions and implications

1. Arguments for the PW

a) Non-isomorphism

- Phonological rules make reference to domains that are not isomorphic with syntactic domains.
- It is unclear how true this is (see also Selkirk 1995). At least at the PW-level, almost any sub-part of a word is a syntactic constituent.

(1) a. [[anti]][[[dis][[establ] ish]]] ment] ary] an] ism]
 b. [[anti PW][dis PW][[[establish PW] mentarian PW] ism PW] PW]

- When larger domains span smaller domains (say, for PW nested structures) their boundaries are often lexically determined, not determined by syntax (Level 1 vs Level 2, see esp. Lowenstamm (2014)).
- When domains really contradict syntactic nesting, we can often say something deeper about what is going on than ‘this affix needs to be part of a PW’ (but sometimes we cannot, yet).

(2) [slower PW] vs [more PW] [intelligent PW]

- These domains are not marked via diacritic edge elements (#/+), but by the projection of phonological constituents.
 - True in theory, but not in practice. Align/Match/Wrap all deal in edges, not domains. Or rather, hierarchy in the phonology cares about linearization more than hierarchy in the syntax (unless you are a Kaynian, but that is still different). Operations still appear to be triggered by edges.

b) Domains of rule application

- In essence, there are strings to which certain phonological rules apply that are larger than the morpheme and smaller than the phrase.
 - Note that there is no cohesive morpho-syntactic unit that can be equated with ‘word’. Not X^0 . Not XP . See Haspelmath (2001), Julien (2002), Svenonius (2016), Newell (2017), Bickel & Zuniga (2017) on the very real problem of defining a syntactic domain that = PW. That this is consistently glossed over is causing us to miss actual generalizations and to generalize over distinct entities.

- It is very well known that functional items behave differently than lexical items when it comes to PW construction.

“My proposal, one which echoes the position taken in Selkirk 1984, 1986 and Selkirk and Shen 1990, is that the set of constraints governing the interface between morphosyntactic and prosodic structure makes no reference to functional categories at all.” (Selkirk 1996)

“Lexical Category Condition (LCC)

Constraints relating syntactic and prosodic categories apply to lexical syntactic elements and their projections, but not to functional elements and their projections, or to empty syntactic elements and their projections.” Truckenbrodt (1999: 226)

- Align [Lex, L; PW, L] ✓ Align [Func, L; PW, L] ✗
 - *Why should this be the case? It is not uniformly true (constraints *are* violable).*
- This generalization doubles another set of facts that are more basic. Let’s apply the Borer- Chomsky Conjecture to the phonology.
 - The Borer-Chomsky Conjecture
All parameters of variation are attributable to differences in the features of particular items (e.g., the functional heads) in the lexicon. (Baker 2008:3)
 - Conjecture (2): Macroparameters
There are some parameters within the statements of the general principles that shape natural language syntax. (ibid)
- The question here is what is attributable to the lexical distinctions in a language and what is attributable to the grammar. Is there a deeper motivation behind Align [Lex, L; PW, L] ✓ Align [Func, L; PW, L] ✗?
- The data points to yes. Let’s come back to that in §3 & §4.

2. Arguments against the PW

- a. **Alignment as non-modular**
- The only constraints that must reference morpho-syntactic structure in an OT that has modularism as a stated goal are Alignment constraints (Stratal OT; Bermúdez-2012, Šurkalović 2013). Why is that? It seems non-optimal.
- b. **PW is a diacritic**
- PW = #
 - Throwing the linear baby out with the anti-diacritic bathwater (Scheer 2008). As noted above, and in Scheer's work, this is not actually what happened – PW became the new boundary.
- Also, esp. with regard to the Selkirk quote above:
 - Function words do constitute domains for phonological rule assignment
 - Function words, unlike lexical words, **do not evidence internal (nested) PW structure**. Why is that?
- c. **Affixhood is (sometimes) lexicalized, sometimes motivated beyond the PW**
- **Word-affiliation is lexically specified.** See Svenonius (2016), and the discussion of analytic and synthetic comparatives. See any work on polysynthesis/agglutination of affixes that are not too small.

(4) a. mánangkàrra-rlà`-rlu single syllable suffixes
'spinifex-LOC-ERG'

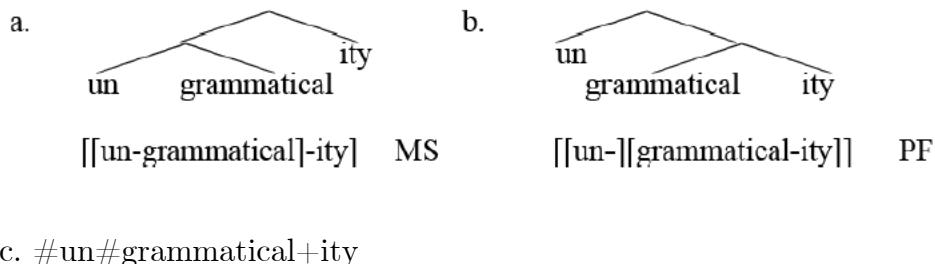
b. páka-rní-nja-kúrra multi-syllable suffixes
'hit-NPast-INF-OBJCOMP' (Warlpiri: Kager 1996)

- The multi-syllabic suffix in (4b) is clearly large enough to be a separate PW and is footed separately from the rest of the word. Yet it is still part of the word, as far as we can tell. (this can also be seen with suffixes like *-ment* and *-able* etc.)
- Why is the morpho-phonology mapping easier when things are small? Phonologically too small items having to be part of a larger string makes phonological sense (See Trommer 2008a, b; Newell & Piggott 2014; etc.). But, this does not get you all of the things that are words.
 - This problem is not uniquely tied to the functional/lexical distinction.

d. Bracketing Paradoxes

- Their conspicuous timing: Bracketing paradoxes can only exist within a theoretical framework that proposes that hierarchical structure exists in the Phonology. Before LPM and the Prosodic Hierarchy, Bracketing Paradoxes couldn't exist (Marantz 1987, Newell 2019).

(5)



- Bracketing paradoxes are not inherent to the data, they are caused by the PH.

Intermediate Conclusion: There are open questions about the status of PW as a phonological object. There are not open questions about whether there are phonologically relevant strings that are bigger than a morpheme and smaller than a phrase.

3. Arguments for the intervention of CV space

a. Stress

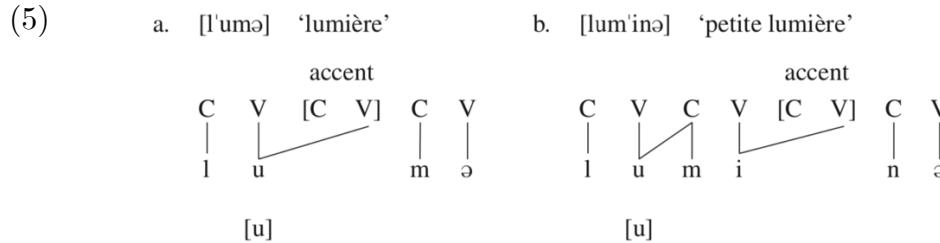
Szigetvári & Scheer (2005), Scheer & Ségeral (2008), Faust & Ulfsson (2018), Bucci (2013).

- Example: Bucci (2013): No Italian dialect as both vowel reduction in unstressed positions and RS: Stressed vowels are long, and therefore block RS.

In the Coratino dialect of Italian (non-a) vowels reduce unless:

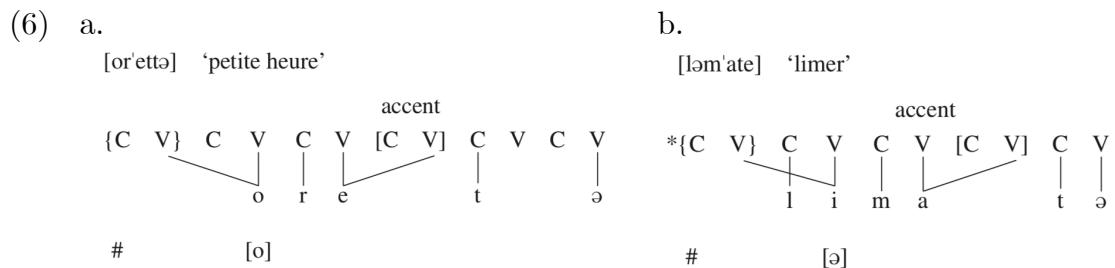
- i) They are stressed
- ii) They are adjacent to a C with which they share place features
- iii) They are word-initial

Why? Sharing makes us stronger (Honeybone 2005).



b. (Left) Edges

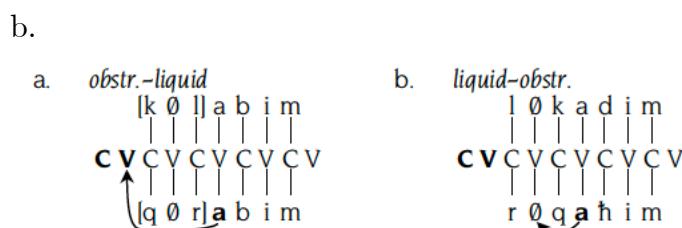
Lowenstamm (1999), Bucci (2013); D'Alessandro & Scheer (2015); Newell (2018), (2019); Scheer (2004), (2009a); Passino (2013); Scheer & Faust (2015); Newell & Scheer (2017).



- Languages differ in whether they allow their left edge to remain unlicensed.

(7)

a.	Root	Singular	Plural
a.	$\sqrt{k\text{lb}}$	kéleβ 'dog'	kəlaβim 'dogs'
b.	$\sqrt{l\text{kd}}$	léxeð 'capture'	ləxaðim 'captures'
c.	$\sqrt{q\text{rb}}$	qéreβ 'midst'	qəraβim 'midsts'
d.	$\sqrt{r\text{qh}}$	réqaħ 'spice'	rəqaħim 'spices'



(Biblical Hebrew: Lowenstamm 1999, following Scheer 1996)

Intermediate Conclusion: Stress and the beginning of the word have been proposed to have similar effects on the segmental string. We assume that empty CV structure may be inserted by the grammar. Therefore, some empty CV space does not originate as part of a lexical item.

4. Some (more) applications of CV phonology to stress and edges

- The spell-out of a cycle/phase is a linearized string of segments and their associations to the CV-tier (composed of CVCV sequences)
- The linearized domain may have an empty CV marking its left edge (a phonological $\#$, see Scheer 2008), (parametrized. Lowenstamm 1999.)
- Segments may float in their underlying representation.

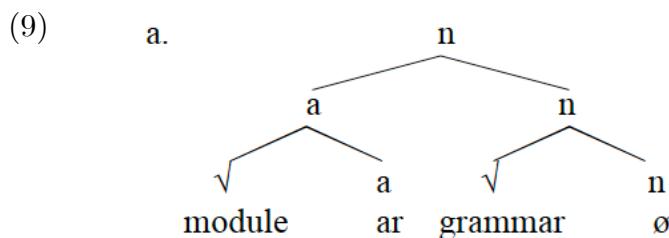
a. Bracketing Paradoxes and reduplication.

- Level 1 vs Level 2 morphology is lexical + phonological in English. The initial vowels of Level 1 affixes float. Association lines merge phonological strings from separate cycles.

(8) a.	<table style="border: none; text-align: center;"> <tr> <td>C</td><td>V</td><td>C</td><td>V</td><td>C</td><td>V</td><td>C</td><td>V</td><td></td><td>C</td><td>V</td><td>C</td><td>V</td></tr> <tr> <td>g</td><td>ø</td><td>ɪ</td><td>ə</td><td>m</td><td>e</td><td>ɪ</td><td></td><td>i</td><td>j</td><td>ə</td><td>n</td><td>ø</td></tr> </table>	C	V	C	V	C	V	C	V		C	V	C	V	g	ø	ɪ	ə	m	e	ɪ		i	j	ə	n	ø	‘grammariān’
C	V	C	V	C	V	C	V		C	V	C	V																
g	ø	ɪ	ə	m	e	ɪ		i	j	ə	n	ø																

b.	<table style="border: none; text-align: center;"> <tr> <td>C</td><td>V</td><td>C</td><td>V</td><td>C</td><td>V</td><td>C</td><td>V</td><td></td><td>C</td><td>V</td><td>C</td><td>V</td></tr> <tr> <td>g</td><td>ø</td><td>ɪ</td><td>æ</td><td>m</td><td>e</td><td>ɪ</td><td>ø</td><td></td><td>l</td><td>ə</td><td>s</td><td>ø</td></tr> </table>	C	V	C	V	C	V	C	V		C	V	C	V	g	ø	ɪ	æ	m	e	ɪ	ø		l	ə	s	ø	‘grammarless’
C	V	C	V	C	V	C	V		C	V	C	V																
g	ø	ɪ	æ	m	e	ɪ	ø		l	ə	s	ø																

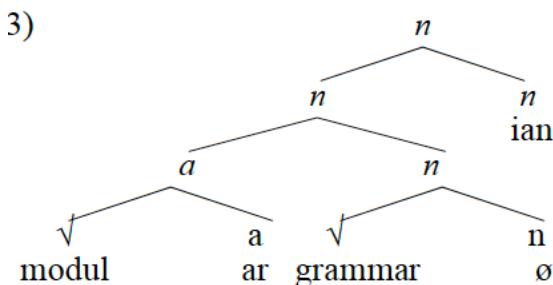
- If there is no association across domains, they will linearize but not merge.



b. $\begin{array}{cccccccccccccccccccccccc} C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V \\ | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | \\ \emptyset & \emptyset & m & a & d\beta & \emptyset & l & \emptyset & r & \emptyset & \emptyset & \emptyset & \emptyset & g & \emptyset & r & \emptyset & \emptyset & \emptyset & \emptyset & \emptyset & \emptyset \end{array}$

- Bracketing paradoxes are impossible within a linear system.

(10) a.



b.

$\begin{array}{cccccccccccccccccccccccc} C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V & C & V \\ | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | & | \\ \emptyset & \emptyset & m & a & d & \emptyset & j & \emptyset & l & \emptyset & r & \emptyset & \emptyset & g & \emptyset & r & \emptyset & m & e & r & i & j & \emptyset & \emptyset \end{array}$

- The above derivation-type + a linear view of full reduplication explains ‘overapplication’ reduplication bracketing paradoxes.

- Kihehe domain mismatches (Marantz 1987, from Odden & Odden 1985)

(11) a. ku-tova-RED \rightarrow ku-tova-tova ‘to beat a bit’
Inf-beat-RED

b. ku-íta-RED \rightarrow kwiita-kwiita ‘to pour a bit’
Inf-pour-RED

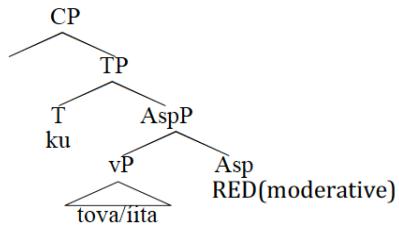
c. kú-lu-íita-RED \rightarrow kú-lwiita-lwiita ‘to pour it a bit’
Inf-it-pour-RED

d. n-teléka-RED \rightarrow neleka-neleka ‘I will cook a bit’
1sg-cook-RED
(Marantz 1987)

- Paradox: the timing of spell-out is not consistent with a straight re-syllabification analysis.

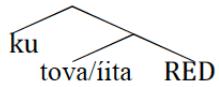
Segmental Processes in Interaction with Prosodic Structure (SPIPS)

(12) a.

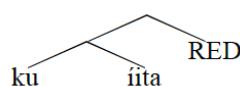


b.

Syntax



Phonology



- Solution. Initial empty CV + Reduplication as multiple linearization of the CV string (a loop, à la Raimy 2000)

(13) a. $\# \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow \%$

$\emptyset \quad \emptyset \quad t \quad o \quad v \quad a$

b. $\# \rightarrow C \rightarrow V \rightarrow \%$

$\emptyset \quad \emptyset \quad \emptyset \quad \text{---} \quad i \quad \text{---} \quad t \quad a$

(14)

a. $\# \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow \%$

$\emptyset \quad \emptyset \quad t \quad o \quad v \quad a$

b. $\# \rightarrow C \rightarrow V \rightarrow \%$

$\emptyset \quad \emptyset \quad \emptyset \quad \text{---} \quad i \quad \text{---} \quad t \quad a$

(15)

$\# \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow C \rightarrow V \rightarrow \% \#$

$k \quad \emptyset \quad w \quad i \quad t \quad a$

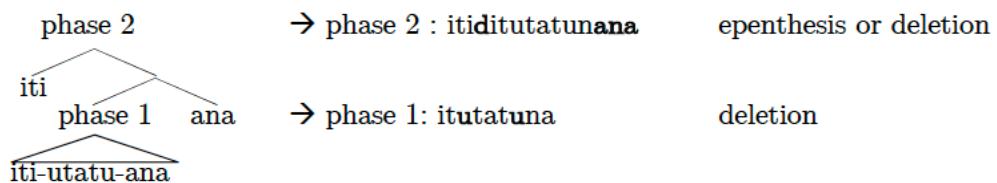
$\# \rightarrow C \rightarrow V \rightarrow \% \#$

$\emptyset \quad \emptyset \quad k \quad u \quad \emptyset \quad \emptyset \quad t \quad o \quad v \quad a$

- b. **Ojibwe epenthesis** (a recap of Newell & Scheer 2017, building on Newell & Piggott 2014)
- Here hiatus resolution is sensitive to (i) cyclic spell-out domains and, in an outer domain, (ii) linear position of the affixes.

		HIATUS VIA PREFIXATION		HIATUS VIA SUFFIXATION	
(A)	V1 and V2 in different cycles	V1 is long : no resolution	$VV-V(V)$ $\rightarrow VVV(V)$		
		V1 is short: epenthesis	$V-V \rightarrow$ VdV		
	(C)	A short V1 is deleted if it undergoes spell-out in the same cycle as V2 out in the same cycle as V2	$V-V \rightarrow V$	(D) Deletion of V2 $V-V \rightarrow V$ Neither quality nor quantity are significant	

- There are 2 resolution strategies for prefixes, but only one for suffixes



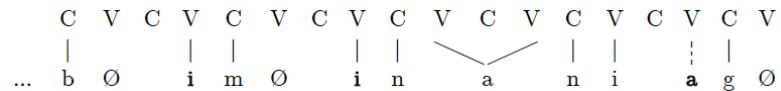
- Vowel deletion is deletion of floating affix vowels. Hiatus resolution is triggered when the only possible vocalic attachment site for a floating vowel is local to a linked V. Epenthesis is due to the initial CV.

Segmental Processes in Interaction with Prosodic Structure (SPIPS)

(16) Suffixation : Realization of and Hiatus resolution of short V

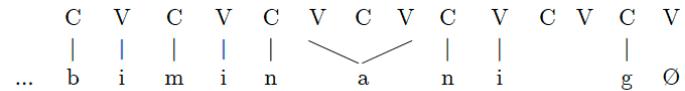
a. ni-ʒiisiib-im-inaani-ag → niʒiisiibiminaanig ‘our ducks’
1-duck-POSSESSIVE-AGR-AGR

b.



→

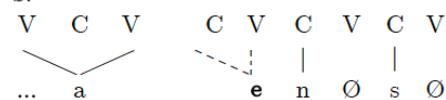
c.



(17) Suffixation : Hiatus resolution of long V

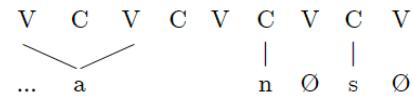
a. aseemaa-eens → aseemaans ‘cigarette’
tobacco-DIMINUTIVE

b.



→

c.

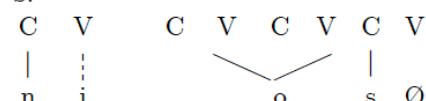


(18) Phase-internal Prefixation. No intervening initial CV.

Prefixation : Hiatus resolution of short V⁴

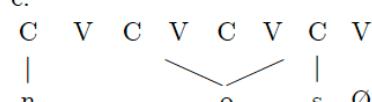
a. ni-oos → noos ‘my father’
1-father

b.



→

c.

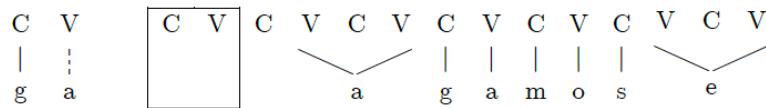


(19) Cross-Phase Prefixation: Short vowels. Intervening initial CV.

Short vowels: No pre-linking Hiatus, post-linking Hiatus resolution by epenthesis

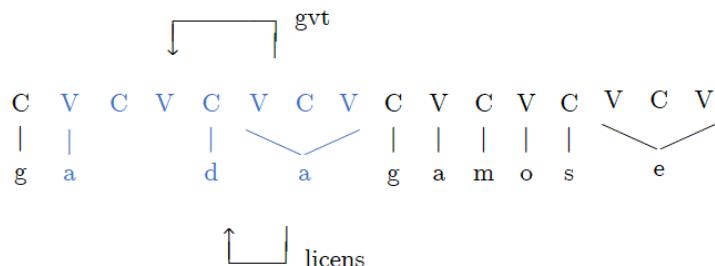
a. ga-aagam-osee → *gadaagamosee* ‘He will (probably) walk in snowshoes’
FUT.PROB-snowshoe-walk

b.



Intervening V slot of the initial CV bleeds the environment for hiatus resolution.

c.

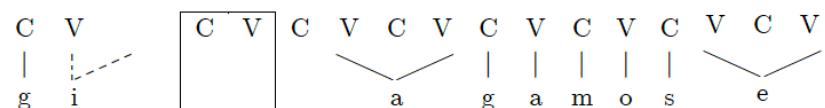


(20) Cross-Phase Prefixation: Long vowels. Intervening initial CV.

(19) Long vowels: No pre-linking Hiatus, no post-linking Hiatus resolution

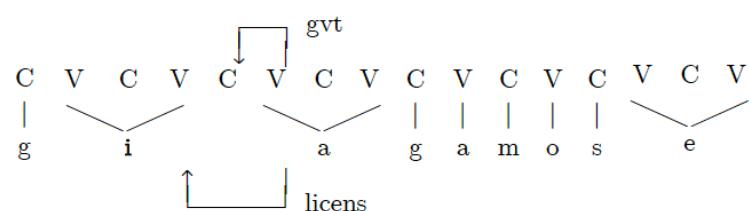
a. gii-aagam-osee → *giiagamosee* ‘He walked in snowshoes’
PAST-snowshoe-walk

b.



Intervening V slot of the initial CV bleeds the environment for hiatus resolution.

c.



Linked vowels are not subject to hiatus resolution. The intervening C is governed, and therefore unrealized.

- Note that both in English and in Ojibwe it is the underlying representations of the affixes involved that determines whether they will merge into the phonological domain of their host.

(21) Phonological Domain Merger (see also Newell & Piggott 2014)

- If a segment in domain X associates with a CV slot in domain Y, domain X and Y merge.
- A search operation may cause PDM (ex. 20)

- Note that not all cross-domain associations cause PDM. Consider Turkish Vowel Harmony (Kabak & Vogel 2001, also Reiss 2003 on Hungarian). It has been noted that VH does not need an analysis that involves the prosodic hierarchy if one assumes lexical underspecification of harmonic vowels.

c. Turkish: PW vs PW adjoiners/clitic group (a relevant aside)

- Turkish is interesting in that the nominal and verbal domains display variable stress behaviour but identical VH behaviour.¹

(22) a. kitaplIklarImíz 'our bookcases'
 book-case-PL-1-PL

 b. é§-ti-niz 'You (PL) were mates/partners.'
 mate-PAST-3PL

 c. es-ti-níz 'You (PL) dug (it) up.'
 dig-PAST-3PL

- Note that it is proposed that there is a null copula in (22b). Whenever the copula (null or overt) is present, stress falls to its left. (Kornfilt 1996, Newell 2008)

 - A phase-based analysis of the verbal facts shows that stress is assigned by rule (final)on the first phase.
 - Outer morphemes share structure with the inner morphemes – Vowel Harmony occurs – but they do not cause a shift in stress.

¹ Some adjectival suffixes and complementizers are also pre-stressing. Here we will stay in the inflectional domain, leaving the derivational suffixes (many/most unproductive, see Göksel & Kerslake 2004) for future consideration.

(i) a. [Alman-ci-1ár]pw 'German-ers' (guest workers in German-' er'-PL Germany)
 b. [[Almán]-ca-ci-lar] 'German-ers' (those who take Ger- German-ADJ-'er'-PL man at school, German teachers) (Kabak & Vogel 2001: 327)

(23) a. [é§-Ø vP] → linearization, stress of vP complement → é§
 b. [[é§-Ø vP] tI-nIz CP] → linearization, VH → é§tiniz

- In (22c) it is proposed that the verb raises out of vP into the inflectional domain and therefore all morphemes are spelled out late as in (23b).
- The question then becomes why there is no nP domain in (22a) that is equivalent to the vP domain in (22c). If nouns have an [[nP]DP] structure analogous to the [[vP]CP] structure in (23) then we expect non-final stress there as well.
- Interestingly, Bošković & Şener (2014) offer many (at least 10) arguments that Turkish (as well as many other article-less languages, see Tomioka 2003 for Japanese) does not have a DP layer.

(24) No negative concord/optional negative concord with negated nominals in DP languages like Italian.

a. Non ho visto nessuno. ‘I didn’t see anybody.’ (Negative Concord only)
 neg have seen nobody

b. Nessuno studente ha letto nessun libro.
 no student has read no book (Double Negation only)

(25) Only negative concord with negated nominals allowed in NP languages.

Hiçbir çocuk hiçbir kitabı oku-ma-dı. ‘No child read any book.’
 no child-nom no book-acc read-neg-past (Neg. Concord/*Double Neg.)

- In many phase-based systems (ex. Embick 2010) a lower phase is not triggered until a higher phase head is merged. In the absence of DP (and of any overt nominalizers), the nominal root and its edge (inflectional domain) are predicted to spell out together.
- Why is this interesting? The predictions for phonological edges are necessarily tied to the correct analysis of the syntax. It is clear that the Turkish nominal and verbal systems are distinct, and that the verbal word is not an X^0 . Remember that the verb raises into CP when the copula is not present. The copula (null or pronounced) raises when it is present (as evidenced by the distinct agreement morphology in the two (with or without copula) verbal paradigms in the language).

Conclusions so far:

- Syntactic size has an effect on when a syntactic constituent will be spelled out.
- We do not need to reference the PH in these instances of nested spell-out.
- Spell-out involves linearizing a string. The PH leads to complications that we would like to avoid (BPs, non-modularity).
- Morphemes in an inner phase may host (part of) the phonological structure of morphemes at an outer phase. Some morphemes do not come with (all of) their own CV structure.
- Stress and Spell-out domains can both be marked by the insertion of empty CV-space.

5. Pronouns and different kinds of Stress.

- This is the proposal part of the talk. Note that it is preliminary. Here is where we ask if we can account for the behaviour of function words (vs. lexical words) without reference to (i) non-phonological features in our phonological derivations, and (i) without reference to the PH.
- This might be easy to account for if function words were small, syntactically. But, function words are big. There is a lot of evidence that pronouns, determiners, etc. are multimorphemic and syntactically complex (Postal 1966; Déchaine & Wiltzschko 2002; Wiltzschko 2002; Harley & Ritter 2002; Toivonen 2003; Richards 2006; Leu 2008, 2015; Preminger 2009; Mikkelsen 2011; Wyngaerd 2018).
- That being the case, there is a mystery at the phonology-syntax interface:

(26) **The Function-Word Spell-Out Mystery²**

Function words may be overtly morphologically complex, but do not evidence internal effects of cyclic spell-out.³

- Can (26) be derived? It has been stipulated many times. Remember:

² This can be considered a mate to the Word-Spell-Out-Mystery of Scheer (2009b) that asks why cyclic phonological effects are visible within words, but not across words.

³ This is true for functional items that are not obviously derived from (multiple) roots (ex. *somebody, himself*).

- Selkirk (1995: 445) The Word Alignment Constraints (WDCON) :
 - ALIGN (Lex, L/R; PWd, L/R)
 - Left/right edge of a **lexical word** coincides with the Left/right edge of a prosodic word
- Truckenbrodt (1999: 226) in his Lexical Category Condition:
 - Lexical Category Condition (LCC)
 - Constraints relating syntactic and prosodic categories apply to **lexical syntactic elements and their projections, but not to functional elements and their projections**, or to empty syntactic elements and their projections.
- If the prosodic structure-building computation cannot refer to functional structure, then nested domains inside of functional words are not possible.
- Selkirk proposes a top-down causative relationship between whether a function word will be pronounced as a separate phonological word or not:
 - “We will see that **the foot-head status of strong forms is in most instances the consequence of the assignment of Prosodic Word status to the Fnc.** Weak forms, by contrast, are prosodic clitics.”
- This is true, but I argue goes in the wrong direction. Focus Accent is only possible on a pronoun if the pronoun is syntactically big.
 - a. **What do we assume about the morpho-syntax of pronouns?**
- Following Postal (1996), Abney (1987) and Ritter (1995), among others, pronouns have no NP projection. They are composed of DP functional structure. “pronouns are analyzed as noun phrases that consist entirely of functional categories.” (Ritter 1995:421-422)
- Pronouns are known to show suppletion for both case and number cross-linguistically (and non-locally) (Smith et al 2019). Radical pro-drop has been argued to be KP suppletion (Neeleman & Szendrői 2007).
 - Suppletion argues for all of the morphemes involved in the spell-out of the pronoun being in a single phase.
 - Weerman and Evers-Vermeul (2002) “spell-out rules for pronouns may target nonterminal nodes, as well as terminals” Personal pronouns (here with specific reference to Dutch) are the spell-out of the non-terminal node KP.
 - Note that pronominal morphology is not always suppletive.

- Clitic pronouns are morphologically and phonologically smaller than full pronouns (sometimes overtly) (Selkirk 1996 also postulated this to be the case).
 - We will assume here that they raise in the syntax to conjoin to a functional position (Uriagereka 1995). Full pronouns are phrasal, weak pronouns are heads. This is all subject to much debate, in addition to the discussion of whether clitic placement is syntactic or phonological. We assume here that it is syntactic. The specific phonological predictions of each different proposal remain to be worked out.

b. What do we assume about the lexical representations of functional items?

- Underspecification governs lexicalization (Kiparsky 1982a, b; Archangeli, 1988's radical underspecification; Steriade 1995; Lahiri & Reetz 2002's Featureally Underspecified Lexicon.)
- Functional items are more likely to be underspecified than roots. This is probably an effect of distribution. Functional items are rarely pronounced alone.
 - So, we will assume that the lexical representation of a morpheme will only contain CV structure that is unpredictable from its output forms.

c. What do we assume are possible triggers of CV-insertion?

- Kinds of *grammatical* CVs:

CV_N = nuclear stress – inserted into all domains that do not have an embedded phonological domain (first phases)

CV_P = phase edge – inserted at the edge of a phase (parametric)

CV_S = regular stress – inserted into all words that contain a foot

CV_F = focus stress – a morpheme that may be syllabic space. Intensifies existing stress.

- *Lexicalized* CVs:

CV_L = lexicalized CVCV structure

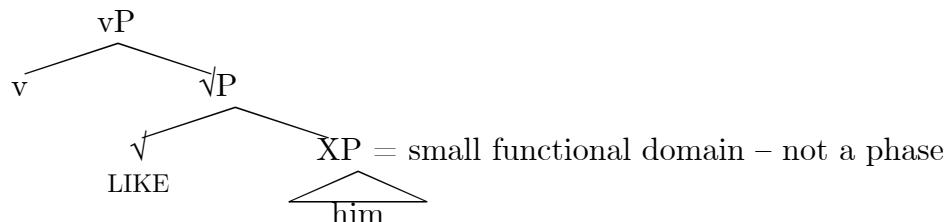
d. A preliminary analysis of function word stress; pronouns

- Selkirk (1996)'s generalizations:
 - Stressed function words/PWs: (i) in isolation, (ii) when focused, and (iii) when phrase final(optional).
 - Weak function words/clitics: (i) not focused, (ii) not phrase final, (iii) phrase final (optional).
- Remember that function words are prone to suppletion.
 - “It is also true that not all weak forms are derivable through regular phonological phenomena like vowel reduction or h loss (cf. Zwicky 1970, 1977, Kaisse 1985). A certain amount of allomorphy may have to be appealed to, sensitive to the prosodic status of the function word as foot-head, PWD or stressless syllable.” (Selkirk 1996).
 - We assume here that vowel-reduction and h-loss are purely phonological.
- What is the underlying structure of the pronoun *him*?
 - Minimally /him/.
 - It is not important here whether this form is morphologically complex.

(27) a. I don't like'im. (clitic) (What do you think of Boris?)
 b. I don't like him. (stressed) (What do you think of those two? “I like her. ...)
 c. I don't like HIM. (focused) (Which one do you not like?)

(28) a. I don't like'im. (clitic)

Merge



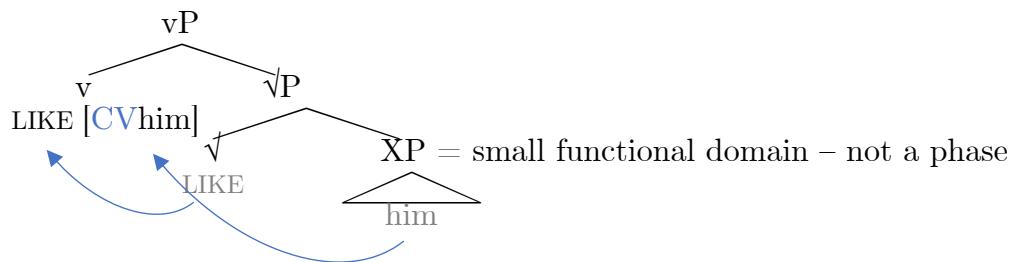
b. Move/copy⁴

- Clitic movement has been proposed to be phrasal movement into a head position. We assume this here.

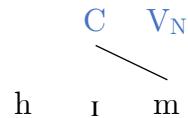
⁴

Note that no specific landing site of clitic raising is presumed here.

- Johnson (2004)'s renumberation proposes that phrasal movement induces spell-out
- Proposal: Spell-out domains that do not themselves include any embedded spell-out domains will receive a Nuclear Stress CV_N .
- Phases are parametrized to be spelled out with an initial CV_P or not (d'Alessandro & Scheer 2015).
- Proposal: XP to X movement is not a grammatically designated phase (no phase head) and so will not be spelled out with a phase edge CV_P .
-

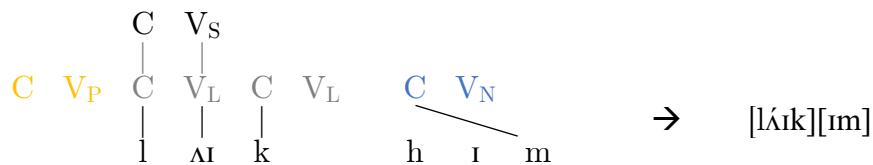


c. Spell out #1:

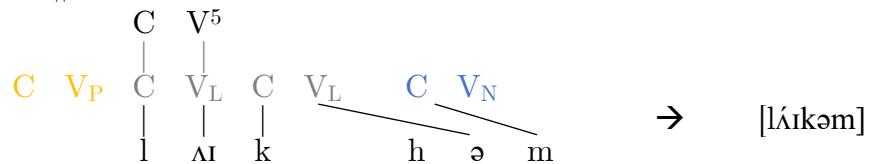


- m* associates to the C. *h* cannot be pronounced in this environment because the available C cannot be licensed by the available V. Association here is right to left.
- Another option is that *m* is lexically associated to the CV-tier. If this is the case, the spell-out of the XPhim cannot be endowed with Nuclear Stress, as then the pronoun would have enough space to pronounce all of its segments. See (29).

d. Spell-out #2 + stress assignment (vP spell out)

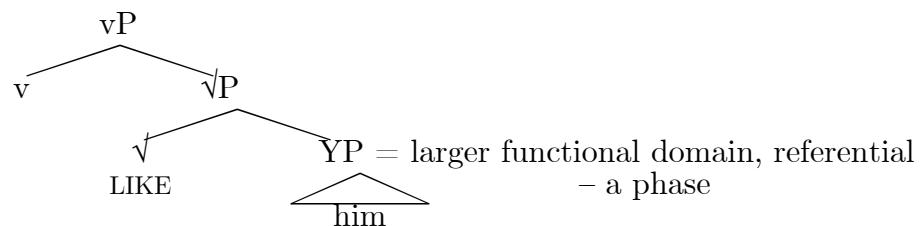


e. Spell-out #3



(29) I don't like him. (stressed)

a. Merge. Move is irrelevant. Pronoun is not a clitic.



b. Spell-out #1

- The YP is a first phase. It will be assigned Nuclear Stress and an Edge CV. A sequence of 2 CVs = a foot.
- The foot is subject to the stress algorithm. (The relative positioning of edge and stress CVs is irrelevant here)
- All segments may merge.



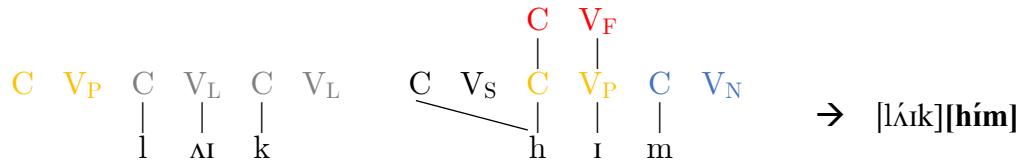
c. Spell-Out #2



⁵ I am abstracting away here from the location of linearization of the CV. This can be considered to be equivalent to a metrical grid representation. See Faust & Ulfsbjorninn (2018) for a similar analysis of stress representation.

(30) I don't like HIM. (focused)

Focus is added. Note that Focus is a morpheme in the syntax. In English (and many languages) Focus is (lexically) associated with Accent. This is lexical and not entailed by the morpho-syntax (see 31).



Intermediate Conclusions:

- Each of the above derivations are based on independently proposed tools in the syntax and the phonology.
- Phonological cliticization is due to the spell-out algorithm + the lexical form of pronouns.
- Pronouns/function words that are lexicalized with CV structure do not alternate between weak and strong (Selkirk 1996 proposes that they are underlyingly footed). This falls out of either system.
- No mention of 'function word' is needed in the phonological derivation.

e. A note on focus marking (a relevant aside)

- Focus markers may be sensitive to the kind of nominal item they can mark even when they are not pronounced as part of the focused nominal item.
- Focus markers do not impose a phonological structure on their base, but rather focus markers take bigger bases, bases that will coincidentally have prosodic size, as size is conferred by syntactic spell-out position.
- Focus markers in (Kenya)Rwanda. (Givón 1975: 195)

(31) a. Yohani y-à-riiye iffi 'John ate fish/a fish' (Compl. focus)
 John PST-FOC-eat fish

 b. *Yohani y-à-yi-riiye iffi 'John ate the fish' (Compl. focus)
 John PST-FOC-PRON-eat fish

 c. Yohani y-àrà-yi-riiye iffi 'John ate the fish' (VP focus)
 John PST-FOC-PRON-eat fish

6. Conclusions and implications

- We may not need to reference Function Words and Lexical Words in our phonological rules if we assume underspecification.
 - CV space is grammaticalized. It may mark Phase-Edges or Stress (or any templatic morphology – but that is lexicalized CV structure)
 - Word-Minimality may also fall out of spell-out with grammaticalized CVs. Nuclear Stress + a Phase Edge are implied at the spellout of each grammaticalized phase.
 - This might also avoid another interesting asymmetry between the PW and other levels of representation. Syllables (CV) and feet ($\sigma\sigma$) are binary. PWs don't seem to have the same kind of binarity requirements.
- What of **The Function-Word Spell-Out Mystery?**
 - Function words do not contain phases (but see fn3)
 - Function words are often portmanteaux
 - This is related to their syntactic structure not containing phases
 - Function words are distributionally well-placed to have underspecified lexical representations (like affixes).
- The morphosyntax is prior to the phonology. Procedural explanations always have priority over representational explanations.
- This application of grammatical CV structure to the phonology of function words is obviously preliminary. But, if we grant that Stress and Phase Edges are marked via the insertion of Empty CV Structure, this is an avenue that must be explored.

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