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Accounting for "free Wackernagel elements": weakness without dependency

1.0   The problem

❖ There are strong arguments for having phonology involved in some capacity for the derivation 2P effects in many languages (Chung 2003). This is generally done by having clitics undergoing postsyntactic movement in order to satisfy a prosodic dependency (Halpern 1995, Embick & Noyer 2001) or by a prosodic subcategorization requirement on the part of clitics (Inkelas 1989, Chung 2003).

❖ So how do we handle (apparently non-syntactic) 2P in the face of evidence against prosodic dependency, i.e., 'free Wackernagel elements' (Bickel & Nichols 2007).

> "While there may be languages for which a phonological account of the non-occurrence of clitics in phrase-initial position is possible, no well supported analyses of this kind have been presented. And in fact it is extremely unlikely that such a prosodically based account will be adequate in general. That is because some special clitics that must be placed post-initially are not prosodically deficient. Tagalog, for instance, has a huge system of clitics, most of which are prosodically autonomous and bear their own stress. There seems no phonological reason why these could not occur initially, and if they do not, that fact must be due to some other constraint." (Anderson 2005:141)

(1)   Kuŋ dì   [sána talaga táyo]   na-*bracket together*...
        if   NEG OPT EMPH 1P.NOM PV.NVL.RL-bracket together
        'If we only weren't bracketed together...'[1]

❖ Anderson's solution: give up on prosody – 2P is derived by a NON-INITIAL constraint

2.0   The short answer

❖ There are prosodic words and there are prosodic words:
        PWd   – fufills minimality requirements (e.g., bimoraicity, disyllabicity)
        PWd$_{Hd}$ – focusability, unmarked head of larger prosodic domains

(2)   *mag-lútoʔ [**táyo**]$_F$
         AV-cook   1P.NOM
         (can only be interpreted as '[Let us cook]$_F$'

Abbreviations: EMPH – emphatic, GEN – genitive case, NOM – nominative case, OBL – oblique, OPT – optative, PV – patient voice, NVL – non-volitional, RL – realis, TOP – topic marker.
[1] http://www.peyups.com/posts.khtml?mode=viewtopic&topic=30538&forum=22&start=195

(3) a. [**táyo**]$_F$ ay mag-lúto?   b. [**táyo**]$_F$ aŋ=mag-lúto?
        1P.NOM TOP AV-cook   1P.NOM NOM=AV-cook
        'As for us, let's cook' (contrastive topic)   'Let US cook' (focus)

PWd$_{Hd}$=MWd$_{Lex}$
A PWd with prosodic head status must be a MWd$_{Lex}$ (Zec 2005:87)
A MWd$_{Lex}$ must be a PWd with prosodic head status

❖ On every prosodic level there exists dyads of strong and weak elements. On the level
of the prosodic word, heads constitute strong elements while non-heads, weak elements.

❖ The constraint *WEAKSTART militates against beginning a domain with a weak
member:
        *WEAKSTART (PCat)
        Violated by the configuration [**w** (**w**)...] in PCat

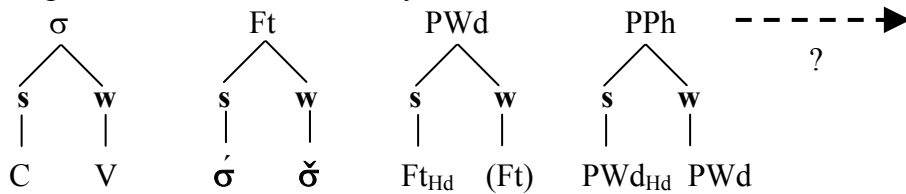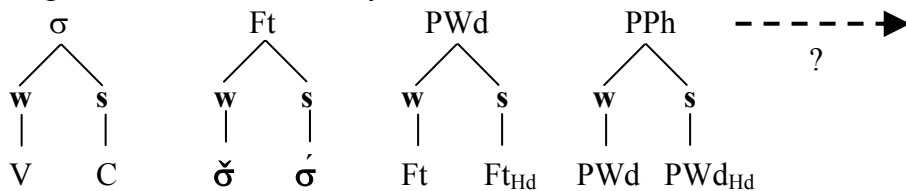Figure 1. Unmarked s-w binary structures

Figure 2. Marked w-s binary structures

Strong evidence for *WEAKSTART on the Ft level comes from the preference for trochees
during acquisition (Fikkert 1994, Demuth 1995, Pater 1997).

Evidence for *WEAKSTART on the PWd level may come from the universal preference for
suffixing. Parallel to PWds, Ft$_{Hd}$ would be constituted by lexical material while non-head
Ft by functional material (cf. Ito & Mester 2006 for PWd effects).

Evidence for *WEAKSTART on the PPh level comes from 2P effects in which the 2P
element is a bona fide prosodic word.

❖ Preliminary evaluation for (2) above:

Tableau 1.

Input:	(a) ☞	(b)	(c)
mag-lúto? AV-cook MWd$_{Lex}$ 1P.NOM > *táyo* MWD	PPh s w PWd$_{Hd}$ PWd | | MWd$_{Lex}$ MWd | | *maglúto? táyo*	PPh w s PWd PWd$_{Hd}$ | | MWd MWd$_{Lex}$ | | *táyo naglúto?*	PPh s s PWd$_{Hd}$ PWd$_{Hd}$ | | MWd MWd$_{Lex}$ | | *táyo naglúto?*
PHead=MWd$_{Lex}$			*!
*WEAKSTART (PPh)		*!	

❖ We still need to answer a number of burning questions:

Why does 'misalignment' to 2P seem to be such a popular repair mechanism for remedying *WEAKSTART?

Why are there so few cases of 1P clitics considering that *WEAKSTART could easily be dominated by the constraint demanding edge alignment of clitics?

3.0   Clitic typology

For Klavans, clisis need not depend on prosodic prominence as clisis is viewed by her as a "syntactic phenomenon, with phonological consequences" (Klavans 1995:158).

But subsequent research (Marantz 1988, Sadock 1991, Billings 2004, *inter alia*) has shown that the Klavans' clitic parameters drastically overgenerate.

As shown by Billings 2004, head adjacent clisis must be treated separately from phrasal clisis to make any sense of the facts although he abandons Zwicky's (1977) descriptive distinction between 'simple' and 'special' clitics.

Here, in addition to alignment to either X or XP categrories, the crucial feature of clitics which helps determine their distribution is their status as sisters/non-sisters of their hosts. (This *roughly* correlates with Zwicky's distinction between 'special' and 'simple' clitics.)

Morphosyntactic sister:
Functional/Lexical heads which select for an XP comp (e.g. D, Case, Aux, Neg).

Morphosyntactic non-sister:
Agreement and adverbial features which do not head their own phrase
(cf. Iatridou 1990, Ackema et al. 1992, Grimshaw 1995, Chomsky 1995 against AgrP and Ernst 1994 against AdverbP, *contra* Alexiadou 1994, Cinque 1999)

In figure 3, X(P) represents the clitic's phrase/head of origin with B and C as the more specific pivots for placement (domain initial versus domain final). The arabic numerals represent possible clitic attachments with the equals sign representing the direction of attachment. Elements which do not show phonological dependencies are ambiguous as the pairs <1,2>, <3,4>, <5,6> and <7,8> represent the single positions I, II, III and IV, respectively, within the string. If no evidence has been adduced for a particular attachment in the given position it is marked by ×.
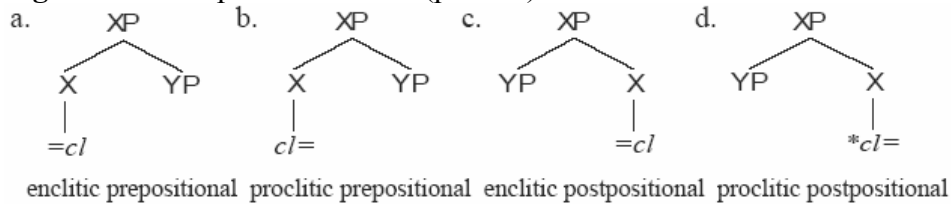
Figure 3. Improved typology of clitic positions (Kaufman in progress)

Phrase	WP]	[		XP			]	[YP
Host position	A=1	2=B=3		4=...=5		6=C=7		8=D
sister	✓	✓	×	×	×	×	✓	×
non-sister	(✓)	(✓)	✓	×	×	×	✓	×

           I   II   III   IV

    L-ALIGNED   **INFIXING**   **R-ALIGNED**

Figure 4. Three possibilities for (phrasal) sister clitics

a.   XP [X [=cl], YP]   b.   XP [X [cl=], YP]   c.   XP [YP, X [=cl]]   d.   XP [YP, X [*cl=]]

enclitic prepositional   proclitic prepositional   enclitic postpositional   proclitic postpositional

Prosodic Asymmetry

In the vast majority of cases, rightwards prosodic attachment is coerced by direct morphosyntactic constituency (restricted to sister elements).

$_{DP}$[Det=$_{NP}$[...]]   %*arg*=$_{IP}$[...]

Sisterhood Displacement Asymmetry

Morphological displacement of a clitic from its host only occurs with non-sisters.

$_{IP}$[X=*arg*...]   *$_{CaseP}$[$_{NP}$[X=*Case*...]]

Directional Displacement Asymmetry

Morphological displacement of a clitic from its host only occurs domain initially (pivot B/position II) not domain finally (pivot C/position III).

$_{IP}$[X=*arg*...]   *$_{IP}$[...*arg* X]

Interim conclusions:

- Prosodic attachment is not arbitrary, as originally argued by Klavans. It either (i) follows morphosyntactic constituency or (ii) it is leftwards.

- Because agrement/adverbial clitics never attach to a morphosyntactic sister they generally do not have the option to proclitcize to an element to their right.

- Misalignment really is prosodically motivated as it only occurs on the left-edge

4.0   The feature adjunction theory of 2P

❖ How do we formalize the difference between sister and non-sister clitics?

We posit two types of alignment constraints the first of which aligns a morphosyntactic head to its complement as a sister under a syntactic phrase (CONCATENATE), and the second of which aligns a feature to the edge of a related head or extended projection (ADJOIN).

> **CONCATENATE** – ALIGN L/R (Head, Complement)
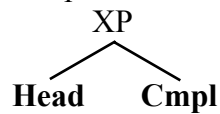> A morphosyntactic head is aligned to the Left/Right edge of its complement within a syntactic phrase.
> (An alignment constraint which creates phrase structure by merging 2 elements from the numeration under the label of the head, cf. Chomsky 1995).
>
> **ADJOIN** – ALIGN L/R (Feature$_j$; Extended Projection$_j$ / X$_j^0$)
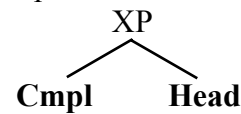> A feature is aligned to the Left/Right edge of a related extended projection/head.
> (An alignment constraint which adds a morphological feature from the numeration directly to either a head or phrase edge without creating new syntactic structure.)
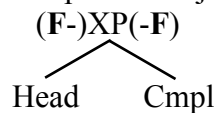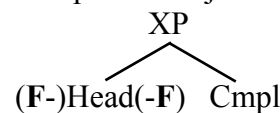
(4) a. 'Output' of CONCATENATE-L   b. 'Output' of CONCATENATE-R

          XP   XP
        /   \   /   \
   Head   Cmpl   **Cmpl   Head**

(5) a. 'Output' of Adjoin-L/R (F, XP)   b. 'Output' of Adjoin-L/R (F, X^0)
         (**F**-)XP(-**F**)   XP
          /   \   /   \
       Head   Cmpl   (**F**-)Head(-**F**)   Cmpl

When ADJOIN aligns features to the edge of a phrase these are left unparsed by syntax, consequently leaving them to be spelled out in a prosodic vacuum.

Therefore, they can then only be parsed as adjuncts to an adjacent prosodic phrase or project their own prosodic phrase to satisfy EXHAUSTIVENESS. Given the constraints below, both of these options are harmonically bound by 'misalignment' of the clitic.

> ALIGN (PPh^{max},L; XP,L)
> The left edge of maximal prosodic phrase is aligned to the left edge of an XP
>
> *STRUCTURE (PPh)
> Violated by a prosodic phrase in the output
>
> ADJOIN-L ([Person.GEN/NOM], IP)
> Genitive/Nominative person features are adjoined to the left edge of IP

(6)   Prosody: ₚₚₕ[**PWd_Hd**   PWd]
       Syntax: ᵢₚ[*maglúto ʔ táyo*]

violation profile:	*WEAKSTART (PPh)	✓
	*STRUCT (PPh)	✗
	ALIGN (PPh^{max}, L; XP,L)	✓

(7)   Prosody: ₚₚₕ[PWd ₚₚₕ[**PWd_Hd**]]
       Syntax: *táyo*   ᵢₚ[*maglúto ʔ*]

violation profile:	*WEAKSTART (PPh)	✗
	*STRUCT (PPh)	✗✗
	ALIGN (PPh^{max}, L; XP,L)	✗

(8)   Prosody: ₚₚₕ[PWd] ₚₚₕ[**PWd_Hd**]
       Syntax: *táyo*   ᵢₚ[*maglúto ʔ*]

violation profile:	*WEAKSTART (PPh)	✗
	*STRUCT (PPh)	✗✗
	ALIGN (PPh^{max}, L; XP,L)	✗

❖ So 1P clisis is not impossible, just unlikely. This is because it is militated against by three independent motivated constraints. For 1P clisis to go through, ADJOIN-L has to dominate all three antagonistic constraints:

ADJOIN-L (F, IP) >> *WEAKSTART, *STRUCTURE (PPh), ALIGN (PPh^{max}, L; XP,L)

This accords well with the rarity but not impossibility of 1P (non-sister) clitics. One example is found in Zuni where weak pronouns, which cannot occur in isolation, must take first position in the clause (Nichols 1997).

(9) a. **Ho'**   waccita 'ito-k'e-kkya   *Zuni*
         1S.NOM(w) dog   eat-CAUS-PST
         'I fed the dog'   (Nichols 1997:37)

    b. **Hom**   waccita 'utte-kya
         1S.ACC(w) dog   bite-PST
         'The dig bit me'   (Nichols 1997:37)

(10)   *Waccita **hom**   'utte-kya
         dog   1S.ACC(w) bite-PST   (Nichols 1997:38)

❖ Now we can ask how concatenated (morphosyntactic sister) clitics differ.

Unlike adjoined features, concatenated clitics are part of 'narrow syntax' and are constrained by such principles as head directionality. The bonds of concatenation are harder to break than those of adjunction. *WEAKSTART is thus satisfied in-situ by breaking the unmarked syntax-prosody mapping and encliticizing 'against the grain'.

(11)   Mam-mula=ak   [**si**   balat]   *Limos Kalinga*
       AV-plant=1S.NOM   OBL banana
       'I'm planting bananas.'   (Ferreirinho 1993:82)

(12)   Naŋ-anup   dadit   tagu[=**t**   bolok]
       AV.PRF-hunt   PL.NOM   person=OBL pig
       'The people hunted pig.'   (Ferreirinho 1993:12)

The two types of prepositional markers are derived by the following ranking:

   *WEAKSTART (PPh) >> ALIGN (XP,PPh)   *prepositional enclitic*
   ALIGN (XP,PPh) >> *WEAKSTART (PPh)   *prepositional proclitic*

❖ The difference between argument features and syntactic heads made here garners support from Tobler-Mussafia (TM) effects in Romance. This occurs when *WEAKSTART makes itself felt on head adjoined features rahter than phrase adjoined ones. TM clitics are proclitic on a verb (typically) unless the verb is initial in its domain in which case enclisis ensues.

Fisher (2002) notes a problem for treating these clitics as D elements (ala Cardinaletti & Robetrs 1991, Uriagereka 1995 *inter alia*). Inversion only applies to the argument clitics but not to thire homophonous determiner counterparts which are always proclitic:

(13)   …e   presentà's denant **lo**=rey   e   saludà=**lo** molt altament   *Old Catalan*
       CONJ present.3s before DET=king CONJ greet=3s   very highly
       '…and he appeared before the king and greeted him warmly…' (Fischer 2002:134)

Fischer (2002:134) sums up the problem: "In this case the constraint would not only have to read the syntactic label, but it would also have to interpret the semantics and/or to analyze whether or not a complement is taken by the D^0."

Here, we expect that Old Cat. *lo* and *la* head a DP in their determiner function and are thus introduced via CONCATENATE whereas, in their agreement function, these elements are nothing but person features which are ADJOINED to the verbal head. We thus predict that only in their adjoined incarnation do these clitics misalign.

5.0   Conclusion

❖ We can now explain 2P effects for prosodically independent elements on a prosodic basis without stipulating NON-INITIAL as a morphological constraint.

This brings 2P clisis together again with infixation (Anderson 2005), as the infixation of vowel initial morphemes (e.g. Tagalog <um>) should be derived prosodically (Prince & McCarthy 1995) rather than specified morphologically as non-initial.

❖ We can now also make better sense of the typology in figure 3 (repeated below):

Figure 3. Improved typology of clitic positions (Kaufman in progress)

Phrase	WP]	[XP			]	[YP
Host position	A=1	2=B=3	4=...=5	6=C=7	8=D	
sister	✓	✓	✗	✗	✗	✗	✓	✗
non-sister	(✓)	(✓)	✓	✗	✗	✗	✓	✗

Sister 1: Enclitic prepositions: *WEAKSTART >> XP=PPh
Sister 2: Canonical proclitic preposition: XP=PPh >> *WEAKSTART
Sister 3,4: No misalignment of phrasal heads because they are subject to CONCATENATE
Sister 5,6 +Non-Sister 5,6: No *WEAKSTART violation on right edge ∴ no misalignment
Sister 7 + Non-Sister 7: Only possible position and prosodic dependency for right aligned clitics
Sister 8 +Non-Sister 4,8: No syntactic constituency ∴ no rightwards prosodic dependency
Non-Sister 1,2: Militated against by 3 independently necessary constraints ∴ attested but rare
Non-Sister 3: ADJOINED elements canonically satisfy *WEAKSTART by misalignment to 2P

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