***Aff-stem-ix** : on the nature of discontinuous affixes

Prosodic Morphology in Optimality Theory (McCarthy & Prince 1993, 1995) accounts for infixation as an effect of ranking markedness constraints (MCs) above constraints (Cs) requiring affixes to be aligned with word edges. For example, the Tagalog affix *um* as in (1) is infixed in (1b) to minimize the occurrence of codas in a syllable (Prince & Smolensky 1993, McCarthy & Prince 1993).

(1) **Tagalog** (Schachter & Otanes 1972)

a.	ibig	*um*-ibig	"love"
b.	kain	k-*um*-ain	"eat"
	punta	p-*um*-unta	"go"

Free ranking of phonological MCs with Cs on positioning of morphemes will generate a number of other logical possibilities for manipulating the position of a morpheme in order to decrease phonological markedness. Consider the hypothetical cases in tableaux (2) and (3). In (2a) the affix is suffixed to the stem, satisfying RIGHTMOST. But in (2b), the consonant of the affix is moved to the position before the stem, avoiding a violation of NOCODA by splitting the affix *na*, resulting in monomorphemic "circumfixation". In (3) either the reduplicant or the root splits into two parts to satisfy the highly ranked ONSET and NOCODA. (These and similar predictions extending McCarthy & Prince (1993, 1995) involve unattested monomorphemic circumfixation.)

(2)

a) *na* + polo	NOCODA	RIGHTMOST	CONTIGUITY$_{MORPHEME}$
☞ po.lo.*na*			
*n*po.lo.*a*		*!	*
b) *na* + apak	NOCODA	RIGHTMOST	CONTIGUITY$_{MORPHEME}$
a.pak.*na*	*!		
☞ *n*a.pa.k*a*		*	*

(3)

RED + apno	NOCODA	ONSET	CONTIGUITY$_{MORPHEME}$
ap.no.ap.no	**!	**!	
☞ *a.p*ap.no.*no*	*	*	*
☞ *a.p*ap.*no*.no	*	*	*
☞ a.p*ap.no*.no	*	*	*
ap.no.*ap.no*	**!	**!	

A survey of literature on circumfixation and affixation in general (Bauer 1988, Spencer 1991, Anderson 1992, Sproat 1992 among others) suggests that the affix~circumfix alternations predicted in (2) and (3) are nonexistent. The morphemes known as circumfixes given in (4) are composed of a prefix and a suffix - two distinct morphemes obeying separate alignment Cs. In this paper I propose a modification of the theory that will not predict the cases like (2) and (3) which involve monomorphemic circumfixes.

(4) **Chickasaw** (Gibson 1971)

chokm-a	'he is good'	ik-chokm-o	'he isn't good'
lakn-a	'it is yellow'	ik-lakn-o	'it isn't yellow'

Dutch (Scalise 1984)

berg	'mountain'	ge-berg-te	'mountains'	(*geberg, *bergte)
raam	'frame'	ge-raam-te	'skeleton'	(*geraam, *raamte)

The only reported case of circumfixation that does not clearly involve bimorphemic affixation of independently existent affixes is the negative affix in Chukchee (Spencer 1998) shown in (5). The two parts of the negative circumfix *a- -ka* do not exist separately, but the alternation it exhibits suggests that it is not monomorphemic. When the root begins with a vowel as in (5b) the word initial hiatus is resolved with unconditional deletion of the affix vowel. The affixal vowel deletes even when the root vowel is schwa although schwa represents the weakest vowel in Chukchee in other hiatus resolution contexts. In (5c) we also get an epenthetic vowel in the place where the affixal vowel could have helped break up the consonantal cluster.

(5) **Chukchee** (Skorik 1961)

a.	jatjol	"fox"	*a*-jatjol-*ka*	"without a fox"
	cakett	"sister"	*a*-cakett-ə-*ke*	"without a sister"
b.	ococ	"leader"	ococ-*ka*	"without a leader"
	ənpənacgə	"old man"	ənpənacgə-*ka*	"without the old man"
c.	utt	"wood"	utt-ə-*ke*	"without wood"

However, discontinuous affixes do exist in cases of metathesis as shown in (4). In these cases both the root and the affix are discontinuous.

(4) **Kui** (Winfield 1928)

gas-	gas-*te* (past)	gas-*pi* (pres. part.)	gas-*pa* (infinitive)	"to hang oneself"
bluk-	bluk-*te* (past)	blu-*p*-k-*i* (pres. part.)	blu-*p*-k-*a* (infinitive)	"to break down"
mlik-	mlik-*te* (past)	mli-*p*-k-*i* (pres. part.)	mli-*p*-k-*a* (infinitive)	"to turn over"

I argue here that affixes are more faithful to their underlying order of segments than are roots. This contrasts with recent accounts of root-affix faithfulness asymmetry, which regards root morphemes as more faithful to their inputs than affixes (Beckman 1997, Urbanzcyk 2001). I argue, therefore, that we need to distinguish two domains of faithfulness: faithfulness to segmental content, and faithfulness to contiguity (segmental order). I propose the following set of constraints: SEGFAITH, $\text{SEGFAITH}_{\text{ROOT}}$, CONTFAITH, $\text{CONTFAITH}_{\text{AFF}}$. If the two domains – namely segmental content, and contiguity – were not separated, the same kind of specific C for both domains – $\text{FAITH}_{\text{ROOT}}$ – ranked independently of the general constraint FAITH would result in an undesirable effect: discontinuous affixes would be preferred to discontinuous roots.

Alternatives are discussed and rejected: The theory of positional faithfulness (Beckman 1997) can be replaced with positional markedness. INTEGRITY – C preventing split morphemes – would exist as a separate C only for affixes but not for stems. In the same way also other MCs would only have a specific constraint for affixes.

The proposed set of constraints predicts that:

- Segmentally unfaithful roots can only be found in languages that exhibit segmentally unfaithful affixes as well. In other words roots are expected to make use of a greater and more marked inventory of segments; e.g. in Cuzco Quechua laryngealized stops are limited to roots (Parker 1997, Beckman 1997).
- Discontinuous functional morphemes can only be found in languages that exhibit discontinuous lexical stems as well, which is the case of metathesis and following McCarthy (1981), Hoberman (1988) and Prunet et. al (2000) holds also for Semitic languages.

The asymmetry between the two domains can further be extended. Data from acquisition of Tagalog verbal infixation (Galang 1982) and transfixation in Arabic (Omar 1970) will be discussed in light of the proposal, suggesting that the order of affixal segments is not specified in the input in the same way segmental content is.

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