PARAGUAYAN GUARANÍ (PG) AND THE TYPOLOGY OF FREE AFFIX ORDER

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In this paper, I argue that free affix order (FAO) in PG is phonologically-driven and place PG within a novel typology of FAO.

PROPOSAL. Affix order commonly reflects semantic scope (e. g. Bybee, 1985; Rice, 2006), often modulated by templatic and phonological restrictions. Free affix order is a typologically uncommon situation where two or more affixes may be reordered without a change in meaning. In this paper, I show that both morphological and phonological mechanisms can give rise to FAO, depending on the language. "Morphological FAO" refers to free affix order modeled with freely ranked templatic constraints. This model treats FAO as a highly marked phenomenon, predicting its rarity. Most documented FAO systems are of this nature (e. g. Caballero, 2010; Hyman, 2003; Paster, 2006). "Phonological FAO" refers to free affix order modeled with prosodic subcategorization frames. The phonological model requires the freely ordered affixes to be independently prosodified and predicts that affixes are freely ordered by default. The phonological analysis has been proposed for Chintang (Bickel et al., 2007). I extend the phonological analysis to Paraguayan Guaraní (PG) and Mari. All the PG data were collected by the author. The morphological and the phonological model make different predictions w. r. t. frequency and prosodic properties of freely ordered affixes. Thus, I demonstrate that FAO should be understood not as a unified phenomenon, but rather typologized as morphologically- or phonologically-driven.

MORPHOLOGICAL FAO. Typically, affix order is either (a) reflective of semantic scope or (b) templatically fixed. Language-particular resolution of this competition is modeled as a relative ranking of SC (*Assign a violation mark for counter-scopal affix order*) and morphotactic constraints X-Y (*Assign a violation mark when affix* ɣ *precedes affix* x). In this model, FAO is captured with free ranking (~) of morphotactic constraints: X-Y ~ Y-X (hence *morphological* FAO) (Ryan, 2010). E. g., the free order of *-ir* 'APPL' and *-in* 'CAUS' in Pulaar is modeled as IR-IN ~ IN-IR, which resolves to IR-IN » IN-IR (1) or IN-IR » IR-IN (2). (Other cases may involve free ranking of SCOPE with a morphotactic constraint, see Hyman, 2003.)

(1) *irt, -ir, -in*: IR-IN » IN-IR

	stir APPL CAUS		
☞ i.	*irt-ir-in-*		*
ii.	*irt-in-ir-*	*	

(2) *irt, -ir, -in*: IN-IR » IR-IN

i.	*irt-ir-in-*	*	
☞ ii.	*irt-in-ir-*		*

"make stir with" (Paster, 2006)

Assuming that the language learner expects affixes to reflect the order of syntactic operations (Baker, 1985) or scope (Rice, 2006), and that they do not posit constraints for which they do not have evidence, scopal affix order has the simplest grammar (1 constraint), templatic affix order is more complex (2 constraints), and FAO is the most complex (3 constraints). Assuming that higher complexity results in higher markedness, and that markedness correlates inversely with frequency, this model predicts that FAO should be the least common affix order (table above). This prediction is borne out. Cross-linguistically, FAO is rare. In languages with FAO, it is often restricted to a subset of pairs of morphemes. E. g. in Chichewa, there are only two cases of FAO: (i) *-an* 'REC' and *-its* 'CAUS' may be freely ordered when expressing a causativized reciprocal and (ii) *-il* 'APPL' and *-idw* 'PASS'—when the applicative introduces a locative (Hyman, 2003). In Choguita Rarámuri (CR), only *-ti* 'CAUS,' *-si* 'MOT,' and *-nale* 'DES' may be freely ordered (Caballero, 2010). In Pulaar—only *-in* 'CAUS' and *-ir* 'APPL.'

ORDER	GRAMMAR	CXTY	MRKD	FREQ
SCOPAL	SC	low	low	high
TEMPLATIC	X-Y » SC	higher	mid	lower
FREE	X-Y ~ Y-X » SC	highest	high	lowest

PARAGUAYAN GUARANÍ. Stress (marked with the acute accent) in PG is final on verb stems (3a). PG has a class of stressed suffixes. When those are present, stress falls on the last syllable of the last suffix. Stress on the stem (3b-c) and on non-final suffixes (3c) may be preserved as secondary stress (marked with the grave accent). Most suffixes may be reordered without a change in meaning (4). I. e., FAO is the default in PG. Thus, PG does not conform with the prediction of the morphological model. I argue that this is because FAO in PG is not driven by morphology, but rather by phonological subcategorization.

(3) a. *o-watá* 3-walk "walks"
b. *o-watà -sé* 3-walk -want "wants to walk"
c. *o-watà -sè -reí* 3-walk -want -in vain "wants to walk in vain"

PHONOLOGICAL FAO. I argue that prosodic constituents (given in brackets [ ]) in PG are right headed, i. e. the last syllable carries primary stress. Furthermore, suffixes are independently prosodified as phonological words. (Nevertheless, they are suffixes, not clitics or independent words, because they are bound to the head, have arbitrary co-occurrence restrictions, and show contextual allomorphy.) The verbal stem and the suffixes form a recursive phonological word. Since prosodic constituents are right headed, the last phonological word (i. e. last suffix) carries the primary stress. Since the stem and non-final suffixes are also phonological words, they carry secondary stress (3c′).

(4a) *o-watà -sè -wa'ú* 3-walk -want -pretend

(4b) *owatà -wa'ù -sé* 3-walk -pretend -want "pretends to want to walk"

(3c′) [[*o-watà*] [*-sè*] [*-reí*]] 3-walk -want -in vain

Finally, I propose that suffixes subcategorize for phonological words, i. e. *suffix* : [ ]$_\omega$ __. Consider (4′). Assume that [*owatá*] first combines with [*-sé*]. Then, [*-wa'ú*] may suffix to [*owatà*][*sé*], yielding (4a′), but it may also "infix" after the phonological word [*owatá*], yielding (4b′). Thus, subcategorization for phonological words derives (*phonological*) FAO. A base for infixation must be phonologically prominent (Yu, 2007). Hence, phonological FAO may arise only when stems and affixes are independently prosodified.

(4′) [*o-watà*] [*-sé*] + [*-wa'ú*] -pretend = a. [*o-watà*] [*-sè*] [*-wa'ú*] / b. [*o-watà*] [*-wa'ù*] [*-sé*]

In Chintang, prefixes are prosodified independently of the verbal stem and freely ordered (Bickel et al., 2007). Thus, in (5), all 3! = 6 prefix orders are grammatical.

(5) { [*u-*], [*kha-*], [*ma-*] } [*cop -yokt -e*]
3NS.A- 1NS.P- NEG- see -NEG -PAST

In Mari, suffixes exponing plurality and possession (as well as case) are generally freely ordered (6). The plural markers do not vowel-harmonize with the stem and resist resyllabification (Luutonen, 1997). This suggests that Mari nominal stems and plural markers are also independently prosodified, both serving as bases for infixation.

(6) [*olma*] { [*-βlä*], *-em* }
apple -PL -my

CONCLUSION. FAO is not unified, but rather morphologically- or phonologically-driven. In morphological systems (e. g. Pulaar, Chichewa, CR), each pair of freely ordered affixes requires learning new constraints, so FAO is rare. In phonological systems (PG, Chintang, Mari), affixes are independently prosodified. This allows for free infixation, which makes FAO the most common situation.