PROSODY DRIVES PARAGUAYAN GUARANÍ SUFFIX ORDER

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PROPOSAL.   In this paper, I document and analyze the unusual agglutinating morphology of Paraguayan Guaraní (or PG, Tupian, ISO 639-3: `gug`), where suffix order is determined by prosody. PG suffixes form two syntactic classes: predicate-level and clause-level. Both classes include stressed and stressless suffixes. Predicate-level suffixes typically precede clause-level suffixes. However, stressed suffixes always precede stressless suffixes and stressed suffixes are freely ordered.

I analyze this as an interaction of (a) mirroring between the order of suffixes and the order of syntactic operations (Mirror Principle; Baker, 1985) with (b) demands on phonological well-formedness. I propose that the stressed suffixes are independently prosodified words. Thus, I show that phonological and syntactic wordhood may vary independently (e. g. Bickel et al., 2017). I propose that the free ordering of stressed suffixes is driven by phonological subcategorization, and the ordering of stressed suffixes before stressless ones by prosodic well-formedness. Thus, I document and analyze partially free ordering of independently prosodified suffixes in a novel agglutinating system, whose ordering properties are driven primarily by prosodic factors (subcategorization, prosodic well-formedness). Previous accounts (e. g. Gregores et al., 1967) miss the connection between prosody and suffix ordering. All the data were collected by author.

(1) *o-watá*
3-walk
"walks"

DATA.   PG stress (marked with the acute accent) is predominantly final. Prefixes may not affect stress; regardless of the prefix, stress remains final (1).

PG suffixes fall into two stress classes: stressed and stressless. When stressed suffixes are present, stress falls on the last syllable of the last stressed suffix (2). Stress on the stem (2a-b) and on non-final stressed suffixes (2b) may be preserved as secondary stress (marked with the grave accent). Most stressed suffixes can be reordered without a change in meaning (3).

(2) a. *o-watà -sé*
3-walk -want
"wants to walk"

b. *o-watà -sè -reí*
3-walk -want -in vain
"wants to walk in vain"

The other class comprises stressless suffixes. Stressless suffixes do not shift stress (4). The stressed suffixes always precede the stressless ones (5). I. e., primary stress falls on the last syllable of the last stressed suffix.

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

b. *owatà -wa'ù -sé*
3-walk -pretend -want
"pretends to want to walk"

(4) *o-watá -ta -ma*
3-walk -FUT -now
"will walk right now"

Furthermore, PG suffixes fall into two syntactic classes: predicate-level suffixes (Pd) and clause-level suffixes (C). Pd suffixes express e. g. tense (*-ta* 'FUT') and desiderativity (*-sé* 'want'). C suffixes include e. g. subordinators (*-ramo* 'if,' *-ajá* 'while'). Pd and C are ordered: Pd precedes C if Pd both Pd and C are stressed (6a), if Pd is stressed and C stressless (6b), and if both Pd and C are stressless (6c).

(5) a. *o-watà -pá -ta -ma*
3-walk -finish -FUT -now
"almost finished walking"

b. **o-watà -ma -pá*
3-walk -now -finish

(6) a. *o-watà -sè -ajá*
3-walk want_Pd while_C
"while s/he will want to walk"

b. *o-watà -sé -ramo*
3-walk want_Pd if_C
"if s/he wants to walk"

c. *o-watá -ta -ramo*
3-walk FUT_Pd if_C
"if s/he will walk"

d. *o-watà -ajá -ta*
3-walk while_C FUT_Pd
"while s/he will walk"

However, if Pd is stressless but C is stressed, C precedes Pd (6d). This switch happens in order to avoid the dispreferred order of stressless suffixes preceding stressed suffixes (cf. 5).

ANALYSIS.   First, I propose that prosodic constituents (given in brackets [ ]) in PG are right headed, i. e. the last syllable carries primary stress (1′).

(1′) [*o-watá*]
3-walk

Second, stressed suffixes are independently prosodified as phonological words. (Nevertheless, they are suffixes, not clitics or independent words, because they are bound to the head, have co-occurrence restrictions, and show contextual allomorphy.) The verbal stem and the stressed suffixes form a recursive phonological word. Since prosodic constituents are right headed, the last phonological word (i. e. the last prosodified suffix) carries the primary stress. Since the stem and non-final prosodified suffixes are also phonological words, they carry secondary stress (2b′). Historically, many of the stressed suffixes are Proto-Tupí-Guaraní reflexes of syntactically independent words (7) (Mello, 2000).

(2b′) [[o-watà] [-sè] [-reí]]
3-walk -want -in vain

(7) a. *-ramó* 'just' < †*ramo* 'now'   b. *-pá* < †*paβ* 'finish'   c. *-potá* 'about to' < †*potar* 'want'

Third, prosodified suffixes subcategorize for phonological words to their left (8).

(8) SUBCATEGORIZATION. stressed (prosodified) suffix : [ ]$_\omega$ __   (cf. Bickel et al., 2007)

Consider (3′). Assume that [*owatá*] '3-walk' first combines with [*-sé*] 'want.' Then, [*-wa'ú*] 'pretend' may suffix to [*owatà*][*sé*], yielding (3a′), but it may also "infix" after the phonological word [*owatá*], yielding (3b′). This captures variable ordering.

(3′) [o-watà] [-sé] $+$ [-wa'ú] $=$ a. [o-watà] [-sè] [-wa'ú]
3-walk -want -pretend   b. [o-watà] [-wa'ù] [-sé]

Fourth, stressless suffixes are non-prosodified. They are stray-adjoined to the phonological word within a phonological phrase, but they do not form phonological words themselves (4′).

(4′) [[o-watá]$_\omega$ -ta -ma]$_\varphi$
3-walk -FUT -now

Fifth, an Exhaustivity constraint (Selkirk, 1995) relativized to non-minimal prosodic words is operative in PG. EXHAUSTIVITY: *No non-minimal prosodic word immediately dominates a syllable.* I. e., recursive prosodic words cannot contain stressless suffixes (non-prosodified syllables). This derives the linear order of stressed (prosodified) suffixes before the stressless (non-prosodified) ones (5a′). (I assume that another constraint which penalizes phonological phrases immediately dominating stray syllables ranks low, showing no activity).

(5a′) [*owatá*], [*-pá*], *-ta, -ma* :   EXH
☞ i. [[[*owatà*]$_{\omega_{min}}$[*pá*]$_{\omega_{min}}$]$_\omega$*tama*]$_\varphi$
ii. [[[*owatà*]$_{\omega_{min}}$*ta*[*pá*]$_{\omega_{min}}$]$_\omega$*ma*]$_\varphi$ *
iii. [[[*owatà*]$_{\omega_{min}}$*tama*[*pá*]$_{\omega_{min}}$]$_\omega$]$_\varphi$ **

Sixth, the Mirror Principle plays limited role in PG, ensuring that Pd precede C. MIRROR: *Assign a violation mark for each C preceding Pd.* MIRR ensures the Pd ≺ C order seen in (6a-c). However, MIRR is outranked by EXH, which derives the order reversal seen in (6d′). The PG formulation of MIRR does not enforce any order among suffixes within one category (Pd or C). Thus, MIRR does not interfere with the variable ordering of prosodified Pd suffixes seen in (3′).

(6d′) [*owatá*], *-ta*$_{Pd}$, [*-ajá*]$_C$:   EXH » MIRR
i. [[*owatà*]$_{\omega_{min}}$*ta*[*ajá*]$_{\omega_{min}}$]$_\omega$ *
☞ ii. [[*owatà*]$_{\omega_{min}}$[*ajá*]$_{\omega_{min}}$]$_\omega$*ta*   *

In sum, the order of PG suffixes emerges from the interaction of the violable Mirror Principle with phonological subcategorization and prosodic well-formedness. PG suffixes are independently prosodified and variably ordered. These highly non-prototypical suffixes challenge the notion of a word, contributing to the ongoing research on the nature of domains in phonology and syntax.

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