MORPHOLOGICALLY-CONDITIONED LICENSING OF THE A'INGAE GLOTTAL STOP

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PROPOSAL. In this paper, I describe and analyze the morphologically-conditioned phonology of the glottal stop in A'ingae (or Cofán, an Amazonian isolate, ISO 639-3: con). A glottal stop within an inner morphosyntactic domain assigns stress two syllables to its left. A glottal stop in the outer domain has no effect on stress. Moreover, stress-deleting (dominant) suffixes in the inner domain also delete glottal stops. Stress-deleting suffixes in the outer domain leave glottal stops intact.

To account for this pattern, I adopt Goldsmith's (1976) notion of licensing. I propose that within the inner morphophonological domain, the glottal stop is licensed by the metrical foot. In the outer domain, the glottal stop is licensed by the syllable. Furthermore, I propose that the deletion of a licenser entails the deletion of its licensees. Thus, the paper (a) shows that one phonological element may have different licensers within one language and (b) elaborates the interaction of dominance with licensing. In doing so, it demonstrates that licensing holds genuine explanatory power and needs to be incorporated into modern phonological theory. To model domain-specific licensing and morpheme-specific dominance effects, I adopt Cophonologies by Phase (Sande, Jenks, and Inkelas, 2020). All the data were collected by the author.

(1) [*kufe* ***-khú*** *-ji* *-ʔngi*] *-ʔfa -ya -mbi*
play -RCPR -PRCM -VEN -PL -IRR -NEG
"(they$_{PL}$) will$_{IRR}$ not$_{NEG}$ come$_{VEN}$ to be about to$_{PRCM}$ play with each other$_{RCPR}$"

DESCRIPTION. A'ingae is a heavily agglutinating language, with many inflectional categories exponed with verbal suffixes. Within a complex verb, two morphophonological domains can be distinguished: The inner domain (represented with [ ]) includes the root and exponents of voice, aspect, and associated motion. The outer domain includes exponents of subject plurality, reality, polarity, force, and others, as in (1) above.

The presence of the glottal stop is contrastive in A'ingae verbal roots (2a-b) as well as functional morphemes (2c-d). The glottal stop is the only possible coda in A'ingae. The glottal stop usually occupies the coda position; onset glottal stops are rare.

(2) a. ***séje*** paint b. ***séʔje*** cure c. ***tsú****=ngi* do=1 d. ***tsú****-ʔngi* do-VEN

Concerning stress, A'ingae verbal roots can be stressless (stress predictable based on language-general patterns) (3a-b), or have underlying stress on the first syllable (3c-d), which includes those with a glottal stop (3e-f). The glottal stop predictably surfaces in the coda of the 1st syllable in disyllabic roots (3e), and in the coda of the 2nd syllable in trisyllabic roots (3f). There are no roots which have a glottal stop but no stress. Stress is marked with the acute accent (´) and **boldface**.

(3) a. / *panza* / hunt b. / *atapa* / breed c. / ***á****fa* / speak d. / ***kú****ndase* / tell e. / ***séʔje*** / cure f. / ***á****kheʔpa* / forget

A'ingae morphemes vary along two dimensions. The first dimension is the morphophonological domain. Glottal stops introduced by suffixes of the *inner* domain trigger special stress assignment, typically two syllables to the left of the glottal stop (4b, cf. 4a). Glottal stops introduced by suffixes of the *outer* domain do not have any effect on stress assignment (4c-d).

(4) a. [*ata****pá*** *-ji*] breed -PRCM b. [*a****tá****pa -ʔje*] breed -IPFV c. [*ata****pá***] *-ja* breed -IMP d. [*ata****pá***] *-ʔfa* breed -PL

The second dimension is dominance (Alderete, 1999; Halle and Vergnaud, 1987). *Recessive* suffixes preserve underlying stress, e. g. of ***kú****ndase* 'tell' (5a,c). *Dominant* suffixes ($^{\emptyset}$) delete it (5b,d). (Then, stress is reassigned according to language-general patterns.) Whether a suffix is recessive or dominant is unpredictable and independent of the morphophonological domain.

(5) a. [***kú****ndase -ji*] forget -PRCM b. [*kunda****sé*** *-ye*$^{\emptyset}$] forget -PASS c. [***kú****ndase*] *-ja* forget -IMP d. [*kunda****sé***] *-jama*$^{\emptyset}$ forget -PRHB

If a glottal stop is present, inner dominant suffixes delete the glottal stop along with stress (6b, cf. 6a). Outer dominant suffixes delete stress, but leave the glottal stop intact (6d, cf. 6b-c).

(6) a. [***á***khe?pa *-ji*] forget -PRCM b. [*akhe**pá*** *-ye*$^{\emptyset}$] forget -PASS c. [***á***khe?pa] *-ja* forget -IMP d. [*akhe?**pá***] *-jama*$^{\emptyset}$ forget -PRHB

ANALYSIS. To account for the above facts, I propose that in the inner domain, the glottal stop is licensed by a metrical foot (f{ʔ}: *Glottal stops are licensed by metrical feet*). A'ingae footing is trochaic. Thus, when a preglottalized suffix in the inner domain attaches, a binary trochee is constructed (MAXʔ: *For every glottal stop in the input, there is a corresponding glottal stop in the output* » DEPF: *For every metrical foot in the output, there is a foot in the input*). In addition, the glottal stop is preferentially right-aligned with the trochaic foot that licenses it (ALʔ): *Every glottal stop is right-aligned with a metrical foot*). This captures the fact that glottal stop assigns stress two syllables to its left (7). (3e is due to high ranked NFʔ: *A glottal stop is not final in a word*, not shown in 7.)

(7)

atapa -ʔje	f{ʔ}	ALʔ)	MAXʔ	DEPF
i. *atapaʔje*	*	*		
☞ ii. *a(**tá**paʔ)je*				*
iii. *ata(**pá**ʔje)*		*		*
iv. *atapaje*			*	

The outer phonological domain has a different constraint ranking: The glottal stop is licensed by a syllable (σ{ʔ}: *Glottal stops are licensed by syllables*). The constraint ALʔ) is not active. Thus, the glottal stop has not affect on stress assignment.

I capture the stress deletion triggered by dominant suffixes with an ANTIMAXIMALITY constraint which requires the deletion of metrical structure. I propose that **the deletion of a licenser entails the deletion of its licensees,** i. e. ¬MAXf: *For no metrical foot or segment in the input, is there a corresponding metrical foot or a segment licensed by a metrical foot in the output.* Thus, **if stress deletion is triggered by a suffix in the inner domain, where glottal stops are licensed by feet, they must undergo deletion as well (6b). If deletion is triggered in the outer domain, where glottal stops are not licensed by metrical structure, only metrical structure is deleted (6d).**

REJECTED ALTERNATIVE. An alternative account might derive the A'ingae pattern by using ALIGNMENT constraints (McCarthy and Prince, 1993), such as ALʔ), alone. I argue that an ALIGNMENT-only account misses a key generalization: Glottal stops are deleted along with stress iff the stress deletion takes place in the inner domain (i. e. where glottal stops are licensed by metrical structure).

In the absence of dominant suffixes, the presence of glottal stops in the input triggers foot construction (7), which shows that MAXʔ ranks above DEPF. Assuming that in the ALIGNMENT-only account ¬MAXf targets only metrical structure for deletion, ALʔ) will recreate metrical structure in the output, predicting an incorrect winner (8). Thus, an ALIGNMENT-only account must additionally assume that dominant suffixes also rerank DEPf above MAXʔ. This derives the correct output, but it does so by stipulation: the reranking of ¬MAXf above MAXf is formally unrelated to the ranking of DEPf above MAXʔ. If the rankings of {MAXf, ¬MAXf} and {MAXʔ, DEPF} are allowed to vary independently, the factorial typology predicts nonexistent and implausible cophonologies.

(8)

*(**á**khe?)$_1$pa -ye*	¬MAXf	ALʔ)	MAXʔ	DEPF
i. *(**á**khe?)$_1$paye*	*			
ii. *akheʔpaye*			*	
iii. *akhepaye*				*
💣 iv. *(**á**khe?)$_2$paye*				*

The licensing account, on the other hand, captures the intuition that within the inner domain, glottal stops hinge on metrical structure. If the deletion of metrical structure also deletes everything licensed by it, the A'ingae pattern follow straightforwardly. In conclusion, the A'ingae data shows that the notion of licensing needs to be incorporated into modern phonological theory and sheds new light on the interaction of deletion phenomena with licensing.