

# Theoretical Implications of Post-lexical Structure Preservation in Suyá

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## 1. Introduction

### 1.1. Statement of problem:

Both /p/ and /t/ undergo lenition, being realized as [w] and [R], respectively, in phrase-final position (followed generally by an open transition that Guedes calls an 'echo vowel'). Yet the only other voiceless stop in the language, /k/, fails to undergo this lenition. In phrase-final position /k/ varies (apparently freely) with /g/, not with a velar fricative, as might otherwise have been expected. The process is illustrated in (1)-(3):

(1) /nɪp/ → [ndɪw] 'young'

(2) /kyet/ → [kyer<sup>ə</sup>] 'not'

(3) /kahrɪk/ → [karɪk] or [karɪg] 'basket'

### 1.2. Suyá classification and demography

Spoken by approximately 200 people in the Xingu Park region of Mato Grosso, Brazil (number 123 on the map below).

A member of the Macro-Ge family (or 'trunk', as it is sometimes called), to which the Ge family belongs. Within the Ge family there are two subgroups, the Central Ge and the Northwest Ge. Suyá belongs to the Northwest Ge group, which also includes Apinaye, Kayapo, Kreen-Akarore, and Timbira.

Seeger 1987; Seeger 1981; dos Santos (n.d.), Guedes, 1993.

This fieldwork: November, 1999 by DL Everett; several months and on-going by Ruth Thomson.



## 2. Introduction to Suyá Phonology

### 2.1. Syllable Structure: (C)CV(C)

### 2.2. Segmental allophony

TABLE ONE:  
Suyá Surface Consonants

p	t			k	ʔ
	t <sup>h</sup>			k <sup>h</sup>	
		tʃ			
		dʒ			
	s				h
b	d			g	
m	n	ɲ		ŋ	
w	ɔ	y			

TABLE TWO:  
Suyá Input Consonants

p	t			k	ʔ
	s				h
b	d			g	
	r				
m	n			ŋ	
w		y			

TABLE THREE: SUYA VOWELS<sup>1</sup>

Oral Series

i	ĩ (ÿ)	u
e	ẽ (ã)	o
ɛ (ê)	a	ɔ (ô)

Nasal Series

ĩ	ĩ (ÿ)	ũ
ẽ	ã	õ

2.2.1. Syllable structure

(4) (C)CV(C)

Stress is not yet worked out, usually on last syllable.

2.2.2. Segmental allophony

(5) k + y and t + y are analyzed as C-sequences, rather than palatalization

(6) y ⇄ ÿ/[+cons, +nasal]\_\_\_\_\_

(7) n ⇄ ɲ/\_\_\_\_\_ y

(8) 0 ⇄ (h)/[-vd, -cont]\_\_\_\_\_word boundary (optional h-insertion following a word-final voiceless stop).

(9) [+nas, +cons] ⇄ [post-oralized]/\_\_\_\_\_ [+vd, -nasal]

<sup>1</sup> In some of the data here, the following mismatched symbols may occur:

ø = õ

æ = ĩ

å = ẽ

ƒ = (actually, this is not the right symbol; it is the p-version of this) = ÿ

ñ = ÿ

- (m □ mb/\_\_\_ r/a, etc.)
- (10) j □ jy/\_\_\_ [-cons] (before y or V)
- (11) [+ATR] □ [-ATR]/\_\_\_ C. (syllable boundary, i.e. CC or C#)

Aspiration coalescence:

- (12) **t/k+h □ t<sup>h</sup>/k<sup>h</sup>** (This rule of coalescence could account for the fact that 'aspiration' in Suya is much stronger than, say, in English)

- (13) **thỳ** 'to die'
- (14) **apkhê** 'left'
- (15) **khak** 'cough' [k<sup>h</sup>ak ~ k<sup>h</sup>ag]
- (16) **Ikhakxi. Akhak whexi. Hên ka akhak ~ akhag?**  
'I'm coughing a lot. Don't cough. Have you got a cough?'
- (17) **akhrô** 'gather together'
- (18) **Kwysy grâd whexi, akôm to akhrô.**  
'Don't scatter the fire, bring it back together again.'

### 2.2.2. p, t, and k

- (19) 0 □ epenthetic vowel<sub>i</sub>/ V<sub>i</sub> {p, t, k} \_\_\_ phrase boundary

/p/ allophony

- (20) a. p □ w/\_\_\_ h  
b. p □ h/\_\_\_ r  
c. p □ w/\_\_\_ phrase boundary
- (21) **Hên aj kawha ně aj krĩ.** (cf. **kapha** 'in a row')  
They're lying down all in a row.
- (22) **wa kām adji-tôm wha. (pha 'finish')**  
I grow we-old finish  
'We finished growing up.'
- (23) **Adjinhômrỳ whan. (phan 'become')**  
'We became single.'
- (24) **ndyp** new. [ndyw<sup>y</sup>]
- (25) **Suyá patà tōmkām, Suyá patà ndyp kjêr, tōmkām, ināmí ipāmmí ikādikwỳnhmí Suyatàr adjipa.**  
'In the old Suyá village, not the new Suyá village, in the old one, my mother and father and sisters we lived with the Suyá.'
- (26) a. **Depxira?**  
'Is it red?'  
b. **Dew<sup>e</sup>.**  
'(yes it is) red.'

- (27) **Idy<sup>w</sup>. Idyp kjê<sup>r</sup>. Adyp kjê<sup>r</sup>, atôm.**  
'I'm *young*. I'm not *young*. You're not young, you're old.'

/t/ allophony

- (28) t □ tʃ / \_\_\_\_ [+high, +anterior]

- (29) **Ruimê kormã ikra wýtikãm...**  
Ruimê kor-mã i-kra wýt-i -kãm  
-and yet -to 1per- child one -in  
'Rui, when I still had just one child...'

- (30) t-lenition: t □ r / \_\_\_\_ phrase boundary  
0 □ ə/r \_\_\_\_  
r □ əʔ/h \_\_\_\_ (prevocalization)

- (31) **Wa tepto api. Wa phĩro api. Atàpir phexi. Wa to itàpir hrãm kjê<sup>t</sup> (~kjê<sup>r</sup> depending on length of pause). Gàtyreje whĩro sàpir hrãm.**  
'I'm going fishing. I'll climb the tree. Don't climb it. I don't want to climb it. Boys like to climb trees.'

- (32) **djê<sup>t</sup>** 'hanging' [djê<sup>r</sup>]

- (33) **Kwěntên djê<sup>t</sup> ita. Amôn djê<sup>r</sup>. Djôn nĩ n djê<sup>t</sup> hõn.**  
'There's a hammock hanging here. It's hanging over there.' Is it hanging far away?

- (33) **Wa anhkôt ikitto bra.**  
'I take my pet with me everywhere.'

- (34) **Màn jakrat. Krywỳj jakrat. Sakrar<sup>a</sup>.** (first '.'s are smaller pauses)  
'Macaw beak. Parrot beak. Its beak.'

- (35) **Akâbât kôptĩ.**  
'It's a very dark night.'

- (36) **Wa kwã gê<sup>r</sup>. Kwã gêt whexi. Wa itomtwỳmã gêt kê gôr<sup>o</sup>. Ire kwã gêt hrãm kê<sup>r</sup>. Ate nã wa igêrro ta. Hẽn ajmẽn mã gêtto mỗ.**  
'I'll shout to him (or at him). Don't shout at him. I'll sing to my grandchild so he'll sleep. I'm standing singing alone. They went along shouting at each other.'

K-LENITION

- (37) k □ (g) / \_\_\_\_ phrase boundary

- (38) **Wa hwĩsôsôk jahôk. [jahôg]**  
'I'll pierce the paper.'

- (39) **Anhĩkãm gryk. Arĩn tẽ tàgrykti weri. Ibjênda grykti kumẽn. Hẽn wa ibjêdkãm ingryk.**  
'He was angry at himself. Just let him go, he's such an angry person. My husband is a really angry person. I was angry at my husband.'

- (40) **Wheteri bok wha. Hẽn arỳ bok wha. Kutẽn iwê bog<sup>o</sup>?** (notice different occurrences of 'fall' - bok)

- 'They all finished falling. They've already finished falling. Why does it keep wanting to fall?'
- (41) **Măn ta. Măn kormă rarak. [-rarag]**  
'There it is. They are still falling.'
- (42) **Wa Suyá mōn hrām tã wa swrý itm kjê<sup>é</sup>.**  
'I want to see the Suyá but haven't gone there.'
- (43) **Jurunaswýr aj mōn. Jurunatàt adjipa.** (input r and input t)  
'We went to the Juruna and lived with the Juruna.'
- (44) **Suyátàt adjipa kjê<sup>é</sup>.**  
'We didn't live with the Suya.'
- (45) **Nhendjuk ~ Nhendjug** 'proper name'  
(46) **samak ~ samag** 'ear.'

## SOLUTIONS

- (47) \*ʁ/x (no velar fricatives in the language) >> LAZY >> IDENT (Kirchner 2002)  
 (48) CONTEXT-FREE CONSTRAINT: \*[+CONT, +VELAR]  
 (49) CONTEXT-SENSITIVE CONSTRAINT: \*[+VD, +VELAR]/<sub>WORD BOUNDARY</sub>  
 (50) CONTEXT-SENSITIVE CONSTRAINT: \*[-CONT, -VD] *PHRASE-FINAL POSITION* ('LAZY')  
 (48) >> (50) >> (49)

Questions arise immediately from this analysis.

- (51) Why no nasals as output of Lenition?  
 (52) Why no stridents/glottal fricatives as Lenition outputs?  
 (53) Why not all stops?

## Discussion

This is Structure-Preservation and it is not lexical.  
 A change in progress? (Bybee, p.c.)

ASL and other modalities: If ASL has SP, as some have claimed, what is responsible for it? Perhaps what is constant across modalities are constraint families based on cognition more directly, rather than the modality they are dependent upon, e.g. constraints based on articulation.

(54) Q1: Will a negative constraint be adequate here? A constraint to the effect that \*[-cont, +dorsal] will prevent a [ʁ] from surfacing, of course. But it will not tell us why /k/ can surface as /g/, nor why /p/ is realized as /w/, rather than, say, /h/, or why /t/ is realized as /r/, rather than, say, /s/. Something tells us that the sounds need to be voiced. What? Perhaps this is just what Lenition is.

(55) In more general terms, however, we are brought back to the same question: are negative constraints really how we want to capture Structure Preservation? For example, Sandler () claims that Structure Preservation occurs in ASL. But this cannot be based on the same constraints. What is the common denominator of SP in both 'vocalic' and signed speech modalities?

(56) Why aren't Suya cases more common? That is, how did we get by so long thinking that Post-Lexical Structure Preservation is non-existent?

(57) How did SP follow from LP and what does it follow from now?

Alternatives:

FORTITION: Will not work because of input /r/s and /w/s:

INPUT **r-final** words

- (58) **Hên anhîta wa kuti. Rotãm nã gre ti. Sir whexi.**  
'It broke so I put it away. She just now laid an egg. Don't put it away.'
- (59) **Kwêntê do kagîr nhîwhet ba.**  
'She knows how to make the open weave hammocks.'
- (60) **Anher mîra tãm?**  
'Is it true they fell?'
- (61) **Er sitommã. Er akà jatà. Er rwỳ.**  
'Cover it. Put on your clothes. Get down.'
- (62) **Kormã mế byjera wibàd kêr.**  
'The men haven't scattered yet.'
- (63) **Iwipân kjêr.**  
'I'm not *crazy*.'
- (64) **Kute Birbir kîra anhîtoxi?**  
'What's *Birbir*'s hair like?'
- (65) **Iwhajkôr nãjta**  
This is my *ankle*.
- (66) **Ijapôrkâm ikura. (apôr 'lower back')**  
'He hit me in the lower back.'
- (67) **Hare kuja siwher kare baj jadtã.**  
'Try *making* it to see if you know how.'
- (68) **Kuwên whexi, kôt wa ibyôr. Abỳr whexi. Kêtre, ibỳr kêr. (bỳr 'to cry')**  
Don't touch it or I'll cry. Don't *cry*. No, I didn't cry.
- (69) **Idywf. Idyp kjêr. Adyp kjêr, atôm.**  
'I'm *young*. I'm not *young*. You're not young, you're old.'
- (70) **Ashawâr tur hrãm kumên.**  
'Ashawâr really wants to urinate.'

INPUT w-final words (/w/ is analyzed as a consonant, since there are otherwise no vowel sequences in the language.)

- (71) **Iwhajkow nãjta.**  
'This is my toenail.'
- (72) **krêw** 'to plant'
- (73) **kajkêw** 'round'

- (74) **Iwhajkow kajkêw năjta**  
'This is my round toenail.'

#### References

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<b>a-</b> 2s. 2per.	<b>akôm</b> adv. again. <b>Năn kãm ne wa akôm</b>
<b>adji-</b> 1d. – 1p. 1per.	<b>Suyá patãmă itēm kjêt.</b> And so I haven't gone back to the Suyá village again.
<b>ahrîro</b> adv. slowly ; long_time. <b>Ahrîromă wa itaj mbra.</b> For a long time I've been here.	<b>amô</b> dir. there. <b>Ne wa amô Diauarummă ajpÿj.</b> And we arrived over there at Diauaum.
<b>aj</b> dual. pronoun dualizer. <b>Ne wa amô Diauarummă ajpÿj.</b> And we arrived over there at Diauaum.	<b>arak</b> adv. still. <b>Kãm nă wa arak tore inămẽ ipămnda Juruna patākãm mbra, kãm adjipa.</b> There I stayed, I and my mother and father, in the Juruna village, there we lived.
<b>aja-</b> 2d. – 2p. 2per.	
<b>ajkrut</b> vi. two. <b>Wa sarên sîre nh_ikădikwÿnh nă ajkrut ne kãm kapêri.</b> I speak it a little but my two sisters speak it.	

#### Ă - ă

**ămně** dir. here. **Ămně iswÿr tẽ.** Come here to me.

#### H - h

**hrăm** v. be\_hungry ; want.  
**Hwănkurê** n. person's name.

#### I - i

<b>i-</b> 1s. 1per. <b>koromă ikjêtkãm</b> when I wasn't yet (born)	<b>mbra.</b> For a long time I've been here.
<b>itaj</b> dir. here. <b>Ahrîromă wa itaj</b>	

#### J - j

<b>-j</b> longer. longer_form_of_vb.	<b>Juruna</b> n. Juruna. <b>Juruna kapêrikãm</b>
<b>-j-</b> buf. .	<b>kapêri</b> speak in the Juruna
<b>jădo</b> vt. send.	speech
<b>-je</b> pl. plural. <b>ikădikwÿnhjewitkãm</b> when there were just my sisters	



## K - k

<b>ka</b> 2s. 2per.	<b>kra</b> n. child. <b>kormã ikra wýtikãm</b> when I still just had one child
<b>kaj</b> 2pd. 2per.	<b>kryt</b> n. taperecorder.
<b>kapëri</b> n. speech. <b>Kwã kapëri jãdo.</b> She sent her speech to him.	<b>ku</b> 4s. 4per.
<b>kapëri</b> vi. speak. <b>Wa sarëñ sëre nh_ikãdikwýnh nã ajkrut ne kãm kapëri.</b> I speak it a little but my two sisters speak it.	- 4d. 4per.
<b>kato</b> vi. go_out ; leave.	- 4p. 4per.
<b>kãdikwýnh</b> n . sister.	<b>ku-</b> objrep. object_replacer.
<b>ikãdikwýnhjewitkãm</b> when there were just my sisters	<b>kunĩ</b> n. all. <b>Aj kunĩ, ikãdikwýnhje kunĩra kãm kap ëri.</b> All of them, all my sisters speak it.
<b>-kãm</b> pos. when. <b>isãrekãmã</b> when I was little	<b>ku_mẽ_mẽ</b> 4pp. 4per.
<b>kjêť</b> neg. not. <b>koromã ikjêťkãm</b> when I wasn't yet (born)	<b>kwã</b> pos. to_3p. <b>Ipãm kãdikwýnhťa kwã, -Ămñë iswýr tẽ, ne.</b> My father's sister said to him, "Come here to me."
<b>kor</b> time. yet. <b>koromã ikjêťkãm</b> when I wasn't yet (born)	<b>kwýnh</b> n. relative. <b>ipãm kwýnhje</b> my father's relatives
<b>-kôt</b> pos. with ; according_to.	

## L - l

**lanha** n. loan word.

## M - m

<b>-m</b> longer. longer_form_of_vb.	there we lived.
<b>-mã</b> pos. to. <b>koromã ikjêťkãm</b> when I wasn't yet (born)	<b>mẽ</b> pl. pronoun pluralizer.
<b>mba</b> vt. hear ; understand. <b>Ijamakkrerowit ne wa kumba.</b> I hear it just with my ear. (I hear & understand but don't speak it.)	<b>-mẽ</b> conj. and. <b>Pamẽ inãmẽ ipãm Suyá patãkãm adjiro pa.</b> My father led my mother and me in the Suyá village.
<b>mbdjêdn</b> n. husband.	<b>mẽ_mẽ_kaj</b> 2pp. 2per.
<b>mbra</b> vi. walk ; stay. <b>Kãm nã wa arak tore inãmã ipãmnda Juruna patãkãm mbra, kãm adjipa.</b> There I stayed, I and my mother and father, in the Juruna village,	<b>mẽ_mẽ_waj</b> 1pp. 1per.
	<b>mõ</b> vi. go ; come. <b>Wa kãm aj Diaurumwê adjikaton kãm amó Jurunaswýr aj mõ.</b> So we left Diauarum and went to the Juruna.
	<b>mõ</b> vt. see ; look_at.

## N - n

<b>-n</b> ter. . <b>Adjinhómhrñ whan.</b> We became single.	mother and father, in the Juruna village, there we lived.
<b>-n</b> longer. long_form_of_vb.	<b>nã</b> n. mother. <b>Pamẽ inãmẽ ipãm Suyá patãkãm adjiro pa.</b> My father led my mother and me in the Suyá village.
<b>nã</b> foc. . <b>Kãm nã wa arak tore inãmẽ ipãmnda Juruna patãkãm mbra, kãm adjipa.</b> There I stayed, I and my	

**ndyp** *vi.* new. **Suyá patà tómkām, Suyá patà ndyp kjêr, tómkām, ināmẽ ipãmmẽ ikādikwỳn h m ẽ Suyátàr adjipa.** In the old Suyá village, not the new Suyá village, in the old one, my mother and father and sisters we lived with the

Suyá.  
**ne** *conj.* and. **Ne wa amõ Diauarummã ajpñj.** And we arrived over there at Diauaum.  
**ne<sub>2</sub>** *vt.* said. **-Āmnẽ iswñr tẽ, ne.** "Come here to me," she said.

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**Ng - ng**

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**nggõ** *vt.* give.  
**nggõr** *vi.* sleep.

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**Nh - nh**

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**-nh-** *buf.* . **Adjinhõmhrỳ whan.** We became single.  
**nh\_** *subch.* subjchang. **Wa sarẽn sĩre nh\_ ikādikwỳnh nã ajkrut ne kām**

**kapẽri** I speak it a little but my two sisters speak it.

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**O - o**

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**obj-** *buf\_show\_obj.* .  
**objmrk-** *objmrk.* overt\_obj\_mrk.

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**P - p**

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**pa<sub>1</sub>** *1fepro.* I. **Pamẽ ināmã ipãm Suyá patākām adjiro pa.** My father led my mother and me in the Suyá village.  
**pa<sub>2</sub>** *vi.* live ; go\_around. **Ināmã ipãmmã ikādikwñnhmã Suyátàr adjipa.** My mother and my father and my sisters, we lived with the Suyá.  
**patà** *n.* village. **Pamã ināmã ipãm Suyá patākām adjiro pa.** My

father led my mother and me in the Suyá village.  
**pãm** *n.* father. **Pamã ināmã ipãm Suyá patākām adjiro pa.** My father led my mother and me in the Suyá village.  
**pñj** *vi.* arrive. **Ne wa amõ Diauarummã ajpñj.** And we arrived over there at Diauaum.

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**R - r**

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**-r** *longer.* longer\_form\_of\_vb.  
**-ra** *sm.* . **Ipãm kādikwñnhta kwã, -Āmnã iswñr tã, ne.** My father's sister said to him, "Come here to me".

**-røm** *pos.* from. **Ne Suyá patàrøm Diauarummã ajpñj.** And from the Suyá village we arrived in Diauarum.

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**S - s**

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**s-** *3buf.* .  
**samak** *n.* ear. **Ijamakkrerowit ne wa kumba.** I hear it just with my ear. (I hear & understand but

don't speak it.)  
**samakkre** *n.* ear. **Ijamakkrerowit ne wa kumba.** I hear it just with my ear. (I hear & understand but

don't speak it.)  
**sarã** vt. tell ; say. **Juruna kapãri wa sarã sære.** I speak only a little Juruna.  
**sære** vi. little. **isærekãmã** when I was little  
**so-** objrep. object\_replacer.  
**sõ** poss. alienable possession.  
**sukandê** n. medicine.

**Suyá** n. Suyá. **Pamã inãmã ipãm Suyá patákãm adjiro pa.** My father led my mother and me in the Suyá village.  
**-swñr** pos. toward. **Ämnã iswñr tã.** Come here to me.  
**s\_kra** n. hand.

## T - t

**-t-** buf. .  
**-tår** pos. with. **Suyátår adjipa.** We lived with the Suyá.  
**tårãm** adv. a\_long\_time\_ago.  
**tã** conj. but. **Wa Suyá møn hrãm tã wa swñr itãm kjêt.** I want to see the Suyá but haven't gone there.  
**te** n. leg.  
**tã** vi. go ; come. **Ämnã iswñr tã.** Come here to me.  
**-to** pos. with. **Ipãm Suyá patákãm adjiro pa.** My father led us around in the Suyá village.  
**tore** adv. then. **Kãm nã wa arak tore inãmã ipãmnda Juruna patákãm**

**mbra, kãm adjipa.** There I stayed, I and my mother and father, in the Juruna village, there we lived.  
**tõ** n. one. **Ne wa Juruna tõra imã kapãri wa tore Juruna kapãrikãm kwã ikapãri.** If one of the Juruna speaks to me then I speak to him in the Juruna language.  
**tøm** vi. old. **Suyá patà tømãm inãmã ipãmmã ikãdikwñnhmã Suyátår adjipa.** In the old Suyá village my mother and father and sisters lived with the Suyá.

## Ø - ø

**ømhrñ** n. single. **Adjinhømhrñ whan.**  
 We became single.

## W - w

**wa** 1ps. 1per. **Ne wa amø Diauarummã ajpñj.** And we arrived over there at Diauaum.  
**wa-<sub>1</sub>** 4s.  
 - 4d.  
 - 4p. 4per.  
**waj** 1pd. 1per.  
**-wê** pos. from. **Wa kãm aj Diauarumwê adjikato.** So we left Diaurum.  
**wha** vt. finish ; kill. **Ne wa adjitøm wha.** And we finished growing up.  
**-wit** adj. only. **ikãdikwñnhjewitkãm** when there were just my sisters  
**wñti** num. one. **kormã ikra wñtikãm** when I still just had one child