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Coarticulation and Acoustic Transparency in Comaltepec Pronominal Phonology

<u>person/ number</u>	<u>full form:</u>	<u>reduced forms:</u>
1s	hna ^{LH}	R
1px	hna ^{?H}	na?, R?
1pi	hna: ^{LHR?}	
2s	?niu ^L	?
2p	?niu ^{?L} , na?	
3	?i ^L r	r
animal	?i ^L ri?	ne?

- (49) The 1s reduced form consists solely of unspecified nuclear element.

It consists of a syllabic alveolar nasal when immediately preceded by a post-nuclear nasal.

ni ^L ?i:n ^{LHR}	[ni ^L ?i:h ^{LH} n ^L]	I will sweat
ka ^L kian? ^{MR}	[ka ^L kyan? ^M n ^L]	I slept

- (50) Elsewhere, in open syllables, either controlled or ballistic, or in glottally checked syllables, the suffix is realized as a full copy of the stem vowel.

hmi ^L ngi? ^{HM} R	[Mmi ^L ngi? ^{HM} i ^H]	I ask (him)
ka ^L no ^{MR}	[ka ^L no ^M ho ^L]	I got it

- (51) Open ballistic syllables which undergo this suffixiation are characterized by a particularly prominent breathiness in the transition from root to suffix.

/ka^L no^{MR}/-> [ka^L no^MOo^L] ([ka^L no^Mho^L])

- (52) Reduced forms of the 1p include *na?*, which may occur after any syllable, and *R?* which may only follow a syllable that does not posses a nasal coda.

ni ^L la ^{HR?}	[ni ^L la ^H ha?]	we will buy it
ni ^L la ^H na?	[ni ^L la ^H hna?]	we will buy it
hmi ^L ko? ^{HM} R?	[hmi ^L ko? ^{HM} o? ^H]	we help
hmi ^L ko? ^{HM} na? ^H	[hmi ^L ko? ^{HM} na? ^H]	we help

(53) The *R* suffix takes on all the features of the preceding supralaryngeal gesture. If this preceding gesture is a nasal stop, then the suffix is a nasal stop as well. If this preceding gesture is a vowel, then the suffix is the same vowel. Note in particular that intervening laryngeal gestures--either constriction, abduction, or both--do not influence the realization of the suffix--they are invisible.

(54) Articulatory and Acoustic Phonetic Explanation
Laryngeals lack place features at the phonetic level. Keating shows that in English V_1hV_2 sequences, formant transitions between V_1 and V_2 are identical to those in simple V_1V_2 sequences. That is, the presence of intervocalic [h] has no influence on the supralaryngeal configuration.

(55) SL: vowel 1: =====

 vowel 2: =====

 consonant: =

(56) SL: vowel 1: =====

 vowel 2: =====

 L: =

(57) The audible presence of these transitions may potentially lead to their instability: Progressive assimilation--which, recall, is fully audible in this context--may ultimately lead to a phonological restructuring in which the historical prelaryngeal vocalic gesture both precedes and follows the intervening laryngeal.

SL: vowel 1: =====

 L: =

(59) Alternatively, regressive assimilation may ultimately lead to a phonological restructuring in which the historic postlaryngeal vocalic gesture both precedes and follows the intervening laryngeal.

SL: vowel 2: =====

 L: =

(60) Without any supralaryngeal instructions associated with a post-vocalic laryngeal, a vowel may potentially persist through the laryngeal segment, and re-emerge on the other side: The lack of an intervening supralaryngeally articulated consonant allows for this potential perseverance of the preceding vocalic gesture.

(61) Why is trans-laryngeal harmony here progressive, and not regressive?

Morphological Explanation: root syllables are picked from the open, or lexical class of morphemes, and in addition, are a common site for subsyllabic inflection; a greater number of contrasts is required here so that undue homophony does not result.

Non-root syllables are picked from a small, closed set of non-lexical morphemes. As fewer contrasts are necessary here, it is natural that Chinantec should draw on a limited set of its contrasts in its phonological encoding of this morphological material.

Therefore, a given affixal element is more likely to succumb to assimilatory processes such as trans-laryngeal harmony.

- (62) The harmonically determined nuclei of Comaltepec reduced pronouns are a consequence of their closed-class status. This class of harmony is a consequence of coarticulation similar to that found in Comaltepec level H-tone spread.

	<u>input:</u>	<u>output:</u>
SL:	vowel: _____	_____
L:	abduction: =	=

In addition, Comaltepec allows for the spread of a coda nasal segment into the empty suffix nuclear position.

SL:	nasal: _____	_____
L:	abduction: =	=

- (63) The chameleon suffix consists of a nuclear position lacking any further lexical specification. In 1s, the suffix consists of a bare vowel position. In 1px, the suffix additionally possesses a post-nuclear glottal check.

1s: N
 1px: V?

(where N = nuclear, V = vowel)

The quality of this suffix is determined by the preceding supralaryngeal articulation. Note that similar patterns exist in, for example Mazahua (Spotts), and Rengao (Gregerson 1976).