

Spontaneous Nasalization in Wichi'

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Vowel nasalization is a common phenomenon cross-linguistically. It is typically treated as an assimilation process, whereby a given oral vowel is pronounced with a lowered velum (nasalized) due to some adjacent triggering nasal consonant. However, there are cases of spontaneous nasalization which cannot be considered as instances of nasal assimilation. A common example of this type of vowel nasalization has been called 'rhinoglottophilia' and involves the nasalization of a vowel adjacent to a laryngeal consonant, e.g. [ʔ] or [h] (see Matisoff 1975). This unexpected type of vowel nasalization is common in languages throughout the world (see Matisoff 1975, Hajek 2008). Wichi', a Matacoan language of Argentina, exhibits rhinoglottophilia where an oral vowel is nasalized following a glottal fricative. The examples in (1) show spontaneous nasalization in Wichi'.

(1) Wichi' spontaneous nasalization

/hiʔnoʔ/	[hiʔnõʔ]	'man'	/halaʔ/	[hãlaʔ]	'tree'
/ha-/	[hã-]	'2SG.POSS'	/o-hux/	[o-hũx]	'my finger'
/hiʔaʔ/	[-hiʔaʔ]	'Verbal Negation'	/o-pohiʔ/	[o-pohĩʔ]	'I closed (it)'
/-hen/	[-hẽn']	'Plural Marker'	/hon'at/	[hõn'at]	'land, earth'

Some research has been done to explain the motivations for this type of nasalization (see Ohala 1974 and Matisoff 1975). Consequently, the phonetic consequences of [h] are highlighted as likely creating an acoustic situation for vowels similar to that caused by nasal consonants.

However, while this research does provide clear evidence for the phonetic reasons of rhinoglottophilia, it is not immediately clear how this process is to be handled phonologically. In Wichi', spontaneous nasalization cannot be considered a standard case of assimilation because [h] does not have a nasal component to begin with. That is, no feature of [h] can trigger, through feature spreading, assimilation in an adjacent segment. A theory focusing on surface constraints, such as Optimality Theory, is likewise unable to capture the relevant generalizations. This is because while theoretically OT is not concerned with underlying constructions, there is some kind of input structure that is assumed, like distinctive features. A common OT constraint like AGREE will make use of the underlying assumptions of the theory to 'choose' the best surface candidate. An alternative hypothesis, one which ignores underlying assumptions on inputs, would not be explanatorily adequate in trying to generalize why rhinoglottophilia occurs phonologically.

This paper explores the significance of spontaneous nasalization in Wichi'. The discussion points to some unanswered questions important to general phonological theory and highlights some of the possible ways spontaneous nasalization can be explained in that theory. It is concluded that, currently, our phonological theories are unable to adequately explain rhinoglottophilia beyond the raw phonetic facts.

References

- Hajek, John. 2008. Vowel Nasalization. The World Atlas of Language Structures Online, ed. by Martin Haspelmath, Matthew Dryer, David Gil, and Bernard Comrie, Munich: Max Planck Digital Library, chapter 10. Available online at <http://wals.info/feature/1>. Accessed on 2010-08-23.
- Matisoff, James A. 1975. Rhinoglottophilia: the mysterious connection between nasality and glottality. Nasálfest, ed. by Charles A. Ferguson, Larry H. Hyman, and John J. Ohala, 265-287. Stanford University Press: Stanford.
- Ohala, John J. 1974. Phonetic explanation in phonology. Papers from the Natural Phonology Parasession, Chicago, 251-274.