

High vowel nasalization and contrast preservation in French

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Due to the failure of mid and low vowels to assimilate in nasality with adjacent nasal stops (e.g., *itali*[ɛn] ‘Italian (f.)’, **itali*[ɛ̃n]), French is often described as completely lacking regressive nasalization. However, increasing experimental evidence from French shows that, beyond having the highest rates of contextual nasalization, high vowels are on average more than 50% nasal in VN sequences (Rochet & Rochet 1991, Spears 2006, Dow 2014). Taken into account with the morphophonological evidence for lowering of underlying high nasal vowels (e.g., /fiⁿ/ → [fɛ̃] ‘fine (m.)’), we are left with a curious disparity where high nasal vowels are favored as the output of assimilation but actively avoided in inventory production.

In this paper, I argue that contrast plays a central role in blocking regressive nasalization and must be encoded as part of the grammar of French. Problematically, contrast is more often than not considered the mere product or “epiphenomenon” of phonology, which is reflected in most major frameworks by its inability to influence derivations. In order to account for the French paradox, I present an analysis in Preservation of Contrast Theory (PC Theory; Lubowicz 2002, 2012), an optimality theoretic framework where entire scenario-candidates are evaluated against each other. In my analysis, based on larger typological evidence, I argue that markedness pressures drive lowering of input high nasal vowels, which creates a partial height neutralization. By virtue of the elimination of [ĩ] in contrastive positions, this process creates a gap in the inventory where (and *only* where) regressive nasalization may apply; however, where oral-nasal contrast does exist, nasalization is blocked.

In sum, partial height neutralization, whose output is transparent in terms of markedness, allows for partial oral-nasal neutralization to take place, though its scope is unexpected in terms of markedness. This is captured in the PC analysis by an ranking where *VN (“No oral vowel + nasal consonant sequences”) is dominated by PC_{OUT}(nasal), which is violated when identical outputs correspond to segments which are distinct in nasality in the input (e.g., [ɛ̃] ← /ɛ, ɛⁿ/). The full constraint ranking provided in (1), where *ĩ is a simplified markedness constraint against high nasal vowels. Lower-ranked, inactive PC-family constraints are not discussed here.

(1) French ranking, PC analysis

PC_{OUT}(nasal) ≫ *VN ≫ *ĩ, PC_{IN}(nasal), PC_{OUT}(high), PC_{IN}(high)

Due to the relatively high ranking of *VN, nasalization seeks to occur on all vowels, but is impeded where contrast exists. As /iⁿ/ is lowered to [ɛ̃], [ĩ] is perfectly acceptable in assimilatory contexts, according to the oral-nasal contrast—even though it violates the lower-ranked markedness constraint. Thus, high vowel nasalization is not a counterexample to a larger theory of nasal vowel markedness (where low nasal vowels are the least marked), but rather the juncture of allophony and (anti-)neutralization. Ultimately, this analysis provides further evidence for the utility of contrast as visible, if not central, to phonological grammar.

References

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