

Positional Markedness in Prominent Positions

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The two primary aims of this presentation are as follows:

(1) Empirical: to present evidence that ‘prominent positions’ (i.e. onsets, stressed syllables, root-initial syllables – Beckman 1998), can undergo neutralization and condition allophonic alternations.

(2) Theoretical: to advance a restrictive theory of prominent-position neutralization and allophony.

The Empirical Aim

Trubetzkoy (1939) first proposed the (currently popular) idea that prominent positions resist neutralization – i.e. reduction of phonemic contrast – and do not condition allophony – i.e. contextual variation in the realization of a phoneme. From this claim follows the ‘Subset Principle’: the set of elements allowed in a non-prominent position is always a subset of those allowed in a prominent position (see Beckman 1998 and references cited therein).

I will present evidence that the Subset Principle is incorrect: languages may have neutralizations that apply in prominent positions alone, thereby reversing the subset relation between prominent and non-prominent positions. Allophony can also be conditioned by prominent positions, so contradicting the Subset Principle: the set of elements allowed in prominent positions ends up being disjoint with the set of elements allowed in non-prominent positions. Evidence for prominent-position neutralization will be adduced from Campidanian Sardinian; the Polynesian language Niuafuʻou shows prominent-position allophony (These cases are discussed in more detail below).

Based on the evidence from Campidanian Sardinian, Niuafuʻou, and results from a more general survey, I will argue that prominent-position neutralization and allophony is always related to *sonority*: neutralization in prominent positions is always motivated by the desire to reduce onset sonority or increase nucleus sonority, and allophonic processes always aim to have the least sonorous allophone in onsets of prominent positions or the most sonorous allophone in prominent-position nuclei.

The Theory

To account for the fact that neutralization and allophony in prominent positions always aims to increase nucleus sonority and decrease onset sonority, I propose that there are a set of markedness constraints based upon Prince & Smolensky’s (1993) syllable position and sonority constraints.

Prince & Smolensky’s constraints combine the sonority scale (a version of which is given in (1)) with the syllable positions ‘nucleus’ and ‘margin’ (i.e. onset and coda) to form the constraints in (2), which promote high sonority nuclei (2a) and low sonority margins (2b):

- (1) Sonority Scale: | vowels > glides > liquids > nasals > fricatives > obstruents |
 (2) (a) || *NUC/obstr » *NUC/fric » *NUC/nas » *NUC/liq » *NUC/glides » *NUC/vowel ||
 (b) || *MAR/vowel » *MAR/glides » *MAR/liq » *MAR/nas » *MAR/fric » *MAR/obstr||

My proposal is that the prominent positions root-initial syllable (σ_1), stressed syllable ($\acute{\sigma}$), and onset combine with these constraints to produce versions of the *NUC/ α and *MAR/ α hierarchies relativized to prominent positions. For example, the constraint * $\acute{\sigma}$ /MAR/glide bans glide margins in stressed syllables while * σ_1 /NUC/obstr bans obstruent nuclei in root-initial syllables. Following Prince & Smolensky, the constraints are in a fixed ranking. An example using the ‘stressed-syllable’ prominent position is given below:

- (3) The Prominent-Position Sonority Constraints:
 (a) || $\acute{\sigma}$ /*NUC/obstr » $\acute{\sigma}$ /*NUC/fric » $\acute{\sigma}$ /*NUC/nas » $\acute{\sigma}$ /*NUC/liq » $\acute{\sigma}$ /*NUC/glides » $\acute{\sigma}$ /*NUC/vowel ||
 (b) || $\acute{\sigma}$ /*MAR/vowel » $\acute{\sigma}$ /*MAR/glides » $\acute{\sigma}$ /*MAR/liq » $\acute{\sigma}$ /*MAR/nas » $\acute{\sigma}$ /*MAR/fric » $\acute{\sigma}$ /*MAR/obstr||

I will also discuss why constraints of the type * Π /F, where Π is a prominent position and F is a feature (e.g. * $\acute{\sigma}$ /[labial]) should not and cannot be allowed, relating this restriction to conditions on constraint form proposed by Ito & Mester (1992) and de Lacy (1997).

Cases

I will focus on relevant processes in two languages: Campidanian Sardinian and Niuafuʻou. In Campidanian Sardinian, glides and rhotics cannot appear in root-initial syllables, but they can appear in other syllables (Bolognesi 1998):

- (4) Glide and [r] Neutralization in Campidanian Sardinian:
- | | | |
|---------|---------|---------------------------------|
| arɔza | rose | *rɔza (from Latin <i>rosa</i>) |
| eja | yes | *ja |
| mandawa | send to | *wandama |

This is a case of absolute neutralization in prominent-positions; it can be effected by having the constraint * σ_1 /MAR/liquid outrank relevant faithfulness constraints. Note that a positional faithfulness constraint (after Beckman 1998) cannot account for this restriction since positional faithfulness *promotes* contrast in prominent positions, and so cannot cause a *reduction* in contrast – i.e. neutralization.

A process of allophony in the Polynesian language Niuafuʻou also provides evidence for the Prominent-Position Sonority constraints (data is from Tsukamoto 1988):

(5) Niuafuʻou Vowel Devoicing

Short high vowels (i.e. [i], [u]) are voiceless ...

(a) after a voiceless C and before a voiceless C or word boundary (i.e. $C_{-}\{C, \#\}$)

[kà.p̥i.ká.p̥i]	wedge	cf [mòkimók̥i] break into small pieces
[tá.p̥i]	wipe	cf [tá.ŋi], *[tá.ŋi] weep
[hàu.ʔa.lì.k̥i.sí.a]	attended by chiefs	

But are always voiced ...

(b) in a stressed syllable

[lá.h̥i]	large	cf [lah̥i] large+definite	*[la.h̥i]
[ju.ní.t̥i]	unit		*[ju.ní.t̥i]

(c) in an initial syllable

[kit̥i:]	game	*[kit̥i:]
[hih̥ifo]	west	*[hih̥ifo], *[hih̥ifo], *[hih̥ifo]

For the sake of brevity, I will refer to the set of constraints that require devoiced vowels between voiceless consonants as AGREE(voice). With AGREE(voice) outranking IDENT-voice, vowels will be voiceless in the relevant environments. (A fuller analysis and more data will be provided in the presentation).

To block the effects of AGREE(voice) in stressed syllables and initial syllables (5b,c), the constraints * σ /NUC/ \checkmark and * σ_1 /NUC/ \checkmark must be employed:

(6) Positionally-Conditioned Allophony

/hihifo/	* σ /NUC/ \checkmark	* σ_1 /NUC/ \checkmark	AGREE(voice)	IDENT(voice)
hih̥ifo	x!	x		x x
hih̥ifo		x!	x	x
hih̥ifo	x!		x	x
hih̥ifo			x x	

A positional faithfulness account of this system is not possible due to Richness of the Base (Prince & Smolensky 1993). With Richness of the Base, one must explain why underlying voiceless vowels can never appear in stressed or initial syllables: e.g. why does the input /hih̥ifo/ not surface as *[hih̥ifo]? Positional faithfulness constraints such as σ -IDENT-[voice] and σ_1 -IDENT-[voice] cannot account for this issue because they *preserve* contrast, wrongly predicting that /hih̥ifo/ should surface as *[hih̥ifo].

References

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