

# Brazilian Portuguese Phonology: Palatalization and Voicing Assimilation in Optimality Theory.

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## **ABSTRACT**

*This article shows two phonological processings: “Palatalization and Voicing Assimilation” in the Brazilian Portuguese dialect of Rio de Janeiro in the framework of Optimality Theory (Prince&Smolensky, 1993).*

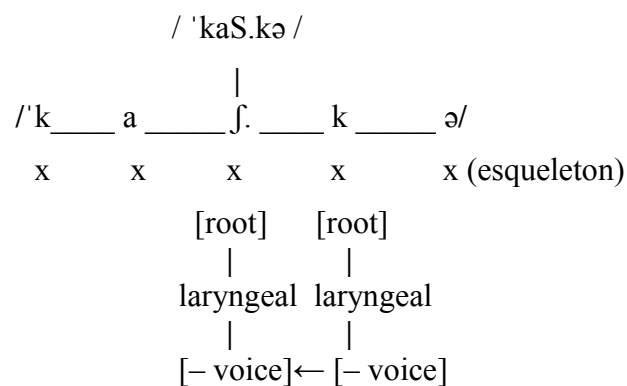
### **Palatalization and Voicing Assimilation of the Archiphoneme /S/.**

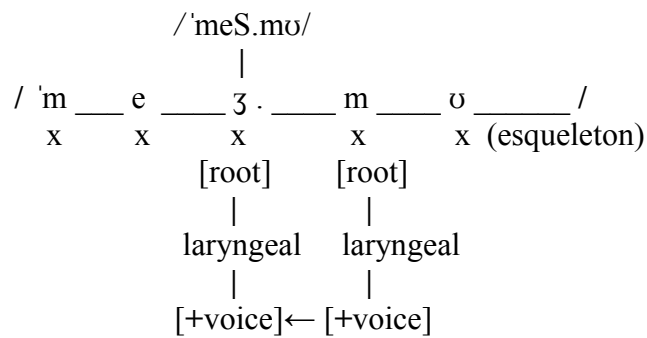
Palatalization refers to a sound, usually a consonant that comes to be produced with the tongue in a position near the palate.

For the speakers of Rio de Janeiro (Cristófaró Silva, 2003) the archiphoneme /S/ at the end of a word palatalizes as an unvoiced alveopalatal /ʃ/, for example in the word “*mês*” [meʃ], (“month”).

But at middle position or at “*Coda* position” (Ferreira Netto, 2001) this same archiphoneme acquires by assimilation to the *Onset* of the next syllable the feature [+ – voice]. For example on the words: “*casca*” [ˈkaʃ.kə] (“peel”) and “*mesmo*” [ˈmeʒ.mʊ] (“same”).

This phonological process can also be illustrated in the Feature Geometry Model (Bisól 1999, Clements&Hume 1995, Cagliari, 1997) by which the phonological features are organized on autosegmental tiers.





From the phonetic point of view there is less effort in pronouncing the word “mesmo” ['meʒ.mʊ] than ['mez.mʊ], this is to the fact that the tongue is more at rest on the palatal position than to the alveolar position.

This same phonological process can also be illustrated on the Optimality Theory Model (Prince&Smolensky, 1993):

CONSTRAINTS:

/S/FRICATIVE: The archiphoneme /S/ manifests as [+ – voice] alveolar fricatives [s – z or ʃ – ʒ].

/S/PALATALIZATION: The archiphoneme /S/ manifests as [+ – voice] alveopalatal fricatives [ʃ – ʒ].

/S/VOICEASSIM.[.ONSETσ – the archiphoneme /S/ assimilates the voicing *Onset* of the next syllable.

<i>Input:</i> /'kaS.ka /	/S/FRICATIVE	/S/PALATALIZATION	/S/VOICEASSIM. [.ONSETσ
<i>Output:</i> ['kas.kə]		*!	
['kaʒ.kə]			*!
→ ['kaʃ.kə]			

<i>Input:</i> / meS.mʊ /	/S/FRICATIVE	/S/PALATALIZATION	/S/VOICEASSIM. [.ONSETσ
<i>Output:</i> ['mez.mʊ]		*!	
['mej.mʊ]			*!
→ ['meʒ.mʊ]			

The first candidates of the two *tableaux* ['kas.kə] and ['mez.mʊ] is the standard Brazilian Portuguese pronunciation but we analysing on this article the dialect pronunciation of Rio de Janeiro so they violate the constraint /S/PALATALIZATION.

The next two candidates ['kaʒ.kə] and ['mej.mʊ] contradicts the constraint /S/VOICEASSIM. [.ONSETσ.

The best candidates are ['kaʃ.kə] and ['meʒ.mʊ] passing by the three constraints without any violations.

The grammar for the "Palatalization and Voicing Assimilation of the Archiphoneme /S/ (Rio de Janeiro accent)" is then established as:

/S/FRICATIVE>>/S/PALATALIZATION>>/S/VOICEASSIM.

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