

Patterns of Palatalization: Generalizations from a Cross-linguistic Study

Either Oral or Poster

An in-depth cross-linguistic investigation of the occurrence of palatalization in 117 languages reveals a striking generalization concerning labial palatalization: there is no language in which labials constitute the only consonant place to undergo palatalization, whether this is full palatalization (major place of articulation change), or secondary palatalization (acquiring secondary palatal articulation). In fact, labial palatalization of any kind appears to be dependent on the palatalization of coronal and dorsal consonants in the same language, and furthermore labial full palatalization is attested in only two languages in this sample. On the other hand, coronal and dorsal consonants may palatalize, fully or secondarily, independently of other major places of articulation (also Bhat 1978, Chen 1973). These generalizations suggest the following implicational hierarchy: *if labials palatalize, so do coronals and dorsals*.

This study suggests that palatalization is best analyzed as an articulatory process arising from varying degrees of temporal overlap of articulatory gestures, as in the tradition of Articulatory Phonology (Browman and Goldstein 1986 et seq.). The major division between lingual and labial gestures prevents labials from undergoing full palatalization. The two languages reported to display full palatalization, Moldavian Romanian and Tswana, are analyzed as the result of historical changes, as suggested in Blevins (2004), and thus do not constitute bona fide cases of palatalization.

The absence of labial full palatalization and the implicational relationship established above have significant typological implications: they make predictions regarding which patterns of palatalization we should expect to see attested, as well as those that we should not expect to find in natural languages. For example, there should be no language in which labial consonants palatalize at all to the exclusion of coronal and dorsal consonants, but there should be languages in which coronals alone or dorsals alone palatalize, either fully or secondarily. These different palatalization patterns are best captured by adopting an Optimality Theoretic (OT; Prince and Smolensky 1993) account which relies on articulatory constraints, thus grounding cross-linguistic phonological patterns in phonetic articulation.

The table below illustrates the different predicted patterns of full palatalization via constraint interaction. The relative ranking of a gestural coordination constraint responsible for temporal overlap of C-V gestures which results in palatalization, CV-COORD-C (see also Gafos 2002, Davidson 2004), with respect to two faithfulness constraints that prohibit changes in the constriction location (CL, or place of articulation) of gestures performed with the tongue body (TB-dorsals) and tongue tip (TT-coronals), results in three different full palatalization patterns, all attested in the present language sample:

Target Place	Constraint rankings and example languages
Coronal and dorsal	CV-COORD-C >> IDENT-TBCL, IDENT-TTCL Breton, Cypriot and Standard Modern Greek, Japanese, Maori, Sanuma
Only coronal	IDENT-TBCL >> CV-COORD-C >> IDENT-TTCL Apalai, Basque, English, Fongbe, Karok, Korean, Dhivehi, Marathi, Nishnaabemwin, Yimas
Only dorsal	IDENT-TTCL >> CV-COORD-C >> IDENT-TBCL Luganda, Nkore-Kiga, Roviana, Dakota, Somali

Secondary palatalization patterns are modeled in a similar fashion under the proposed account, as are mixed patterns of palatalization, for languages where some consonants undergo full palatalization and others secondary palatalization. For example, in Bulgarian, labial and coronal consonants undergo secondary palatalization, while dorsals undergo full palatalization (Scatton 1984).

The principal contributions of this cross-linguistic study rest with revealing the actual patterns of full and secondary palatalization, establishing the implicational relationship for palatalization targets, and the typological predictions about palatalization. The formal OT account using articulatory constraints presents a straightforward way to model the predicted and attested patterns, those that are predicted yet not attested in the current language sample, as well as to rule out patterns predicted to not occur.