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### **Sanskrit nati: phonetics, morphoprosody, origin, and fate**

Old Indic exhibits a well-known consonant harmony called "nati" by which retroflexion spreads from a central retroflex continuant (r, ṛ, ṣ) to a dental nasal following at any distance (e.g. viṣkambh-ena), unless a nonvocoid coronal intervenes (cf. pārṣat-ena). Despite its ubiquity in Sanskrit, the rule is a typological oddity, possibly unique in the world. Even in ancient South Asia, comparably archaic Dravidian lacked any such process, and signs point to its declining productivity throughout Old Indic until its loss by Middle Indic.

While the basic rule is often formalized in generative terms and detailed descriptions have existed since Pāṇini (who has rules such as 8.4.6: "[nati] applies optionally to the nasal of 'vana' when it is part of a compound denoting a perennial herb or forest tree"), few have sought to ground its properties in Vedic phonetics or to systematize its complex interactions with morphology.

To this end, I first discuss phonetic explanation: Why are the triggers confined to the (central) continuants? Why is the only target the nasal? Why is this target impenetrable ("icy"; Jurgec 2011)? Why is the directionality progressive? Why do coronals (including retroflexes) block, despite their compatibility with retroflexion? Why does retroflexion ([-ant]) spread, but not dentality ([+ant])?

Second, I consider two previously unrecognized morphological generalizations, both involving the attenuating effect of the root boundary: (1) Nati almost always applies to an immediately post-plosive target within the stem-suffix complex (e.g. rek-ṇas, rug-ṇa), but almost never to one across a left root boundary "=" (e.g. pr=āpnoti, indr=āgnī), despite otherwise penetrating this boundary (e.g. pra=hiṇoti, vṛtra=haṇa). (2) Nati always applies to a pre-retroflex nasal within the stem-suffix complex (e.g. brāhmaṇ-eṣu), but almost never to one across a left root boundary (e.g. pra=naṣṭa). The grammars list these forms among exceptions, but fail to properly identify the root boundary condition.