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# Early Vedic

Phonology — Part 2: Segmental Processes



# Roadmap

- Notion of Sandhi
- Vowel Coalescence
- Neutralization
- Retroflexion
- Assimilation
- Grassmann and Bartholomae

## Notion of Sandhi

- Cover term from native grammar for various processes
  - ranging from phonemic alternation to tone adjustments
  - often triggered by resyllabification
- Basic distinction between internal and external Sandhi
  - internal Sandhi within phonological word
  - external Sandhi in higher domains
- Sandhi phenomena essential for identifying prosodic boundaries

## Vowel Coalescence — Contraction

- Similar vowels contracted in long vowel
  - /a, ā/ + /a, ā/ → -ā-
    - /bráhmaṇā/ + /avindat/ → *bráhmaṇāvindat* (RV 5.40.6d)
  - /i, ī/ + /i, ī/ → -ī-
    - /pīpíhí/ + /íṣas/ → *pīpíhíṣaḥ* (RV 6.34.5c)
  - /u, ū/ + /u, ū/ → -ū-
    - /góṣu/ + /úpa/ → *góṣúpa* (RV 6.28.8b)

## Vowel Coalescence — Contraction

- Dissimilar vowels contracted in diphthongs (see 2.1)
  - /a, ā/ + /i, ī/ → -e-
    - /sá/ + /imám/ → *sémám* (RV 1.16.5a)
  - /a, ā/ + /u, ū/ → -o-
    - /prá/ + /ugráṃ/ → *prógrām* (RV 10.104.3a)
  - /a, ā/ + /ṛ, ṝ/ → -ar-
    - /purā/ + /ṛtós/ → *purártóḥ* (RV 2.28.5d)
  - /a, ā/ + /e, ai/ → -ai-
    - /át<sup>h</sup>a/ + /aita/ → *át<sup>h</sup>aita* (RV 4.35.3c)
  - /a, ā/ + /o, au/ → -au-
    - /yátra/ + /óṣad<sup>h</sup>īs/ → *yátráuṣad<sup>h</sup>īḥ* (RV 10.97.6a)

## Vowel Coalescence — Contraction

- High vowels and /ṛ̥/ alternate with resonants before dissimilar vowels
  - /i, ī/ + V → -yV-
    - /práti/ + /agr̥b<sup>h</sup>ṇan/ → *prátyagr̥b<sup>h</sup>ṇan* (RV 9.113.3c)
  - /u, ū/ + V → -vV-
    - /ánu/ + /avenat/ → *ánvenat* (RV 4.18.11a)
  - /ṛ̥, ṝ̥/ + V → -rV-
    - /pitṛ̥ + art<sup>h</sup>am/ → *pitrart<sup>h</sup>am* ‘for the sake of the father’
- But other processes might interfere!
  - like Sievers’ law (see 2.3) or Pragṛhya

## Vowel Coalescence — Resolution

- Diphthongs resolved
  - /e, o/ + /V/ → -a.yV- / -a.vV-
    - /ne-a-ti/ → *nayati* ‘leads’
  - /ai, au/ + V → -ā.yV- / -ā.yV-
    - /deváú/ + /árvate/ → *devā́várvate* (RV 5.86.5d)
  
- But outcome in external Sandhi varies!

## Vowel Coalescence — Elision

- Prodelision in external Sandhi overall rare in Early Vedic
  - /e, o/ + /a/ → -e'- / -o'-
    - /té/ + /avard<sup>h</sup>anta/ → *té 'vard<sup>h</sup>anta* (RV 1.85.7a)
- Transmitted text of RV always shows this type of elision
- But regular outcome in RV without prodelision
  - /e, o/ + /a/ → -e.a- / -o.a-
    - /vaso/ + /ágram/ → *vaso ágram* (RV 10.8.4a)
- Can result in short [ě] and [ǒ]



## Vowel Coalescence — Elision

- Diphthongs most often simplified in external Sandhi
  - /e/ + V → \*-a.yV- → -a.V-
    - /agne/ + /ihá/ → *agna iha* (RV 1.76.2a)
  - /ai/ + V → \*-ā.ya- → -ā.V-
    - /kásmai/ + /adyá/ → *kásmā adyá* (RV 5.53.12a)
  - /o/ + /u/ → \*-a.va- → -a.u-
    - /váyō/ + /ukt<sup>h</sup>éb<sup>h</sup>is/ → *vāya ukt<sup>h</sup>éb<sup>h</sup>iḥ* (RV 1.2.2a)
  - /au/ + /u/ → \*-ā.va- → -ā.u-
    - /púrvau/ + /úpa/ → *púrvā úpa* (RV 5.65.3b)
- Results in secondary hiatus

## Vowel Coalescence — Blocking

- Contraction of final /ī/, /ū/, /e/ blocked (Pragṛhya)
  - in certain morphemes and lexical items
    - case endings of dual (e.g. *agnī* ‘fire’)
    - verbal endings of dual (e.g. *b<sup>h</sup>arete* ‘you bring’)
    - in paradigm of deictic pronoun *adas-* ‘that’ (e.g. *amī*)
    - locative forms of personal pronouns (e.g. *asmé* ‘in us’)
    - particle *u* ‘and, also’
- Some because of \*H (see 2.1)
- Most due to analogical spreading

## Neutralization

- Final /s/ and /r/ neutralized at right word edge (see 2.3)
  - /s, r/ →  $h / \_ ]_{\omega}$ 
    - /viśvá-tas/ → *viśvátaḥ* ‘from everywhere’
    - /antár/ → *antáḥ* ‘in, between’
- Debuccalization also sensitive for higher prosodic domains?
  - /s/ also preserved in same context
    - *divás pári* (RV 10.45.1a) : *diváḥ pári* (RV 9.8.8a)
- But traces in RV too few to determine original scope

## Retroflexion

- Applies to /s/ and /n/ within phonological words
  - /s/ →  $\ʃ$  / V<sub>[+high]</sub>, K \_
    - /devésu/ → *devéṣu* ‘among the gods’
  - /n/ →  $\ṇ$  / R,  $\ʃ$  \_ (blocked by intervening coronals)
    - /ṛg<sup>h</sup>āyamāna-/ → *ṛg<sup>h</sup>āyamāṇa-* ‘raging’
- Blocked by assimilatory and dissimilatory processes
  - of /s/ if directly followed by rhotics (e.g. *tisrás* ‘three’)
  - of /n/ if in C<sub>1</sub> in stop cluster (e.g. *ákṛntat* ‘split’)
- But synchronically phonemes because of
  - unmotivated / $\ʃ$ / and / $\ṇ$ / (e.g. *ṣáṣ-* ‘six’, *áṇu-* ‘fine’)

## Retroflexion — Spreading

- Spreads from /ṣ/ to directly following /t/
  - /ṣ-t/ → ṣṭ
    - /iṣ-tí-/ → iṣṭí- ‘seeking’
- Retroflexion in higher prosodic domains?
  - application varies under same phonological conditions
    - *śúciṣ tuváṃ* (RV 1.91.3c) : *prámatis tvám* (RV 1.31.10a)
    - *pári ṇayanti* (RV 3.53.24d) : *ví nayanti* (RV 1.64.6c)
- Data ambiguous and difficult to interpret

## Assimilation — Voice

- Devoicing of stops in internal Sandhi
  - $D \rightarrow T / \_T$ 
    - $/b^h\text{aj-tí-}/ \rightarrow b^h\text{aktí-}$  ‘share’
- Plus neutralization of laryngeal features at right word edge (see 2.3)
- Voicing of stops in external Sandhi
  - $T \rightarrow D / \_ \#V$ 
    - $/\text{tristúp}/ + /ihá/ \rightarrow \text{triṣṭúb ihá}$  (RV 10.130.5b)
  - $T \rightarrow D / \_ \#C_{[+voice]}$ 
    - $/\text{brhát}/ + /gab^h\text{īrám}/ \rightarrow bṛhád gab^h\text{īrám}$  (RV 1.91.3b)

## Assimilation — Manner

- Optional manner assimilation of oral stops in external Sandhi
  - $T \rightarrow N / \_ ]_{\omega} N$ 
    - $/v\acute{a}k/ + /me/ \rightarrow v\acute{a}ñ me$  or  $v\acute{a}g me$  ‘my voice’
- But also grammaticalized with morpheme  $\{-na\}$  in internal Sandhi
  - $/d/ \rightarrow n / \_ N$ 
    - $/c^hid-n\acute{a}-/ \rightarrow c^hinn\acute{a}-$  ‘cut’
- Points to nasal release of oral stops in TN clusters
  - In addition instances of place assimilation with nasals
    - $/yaj-n\acute{a}-/ \rightarrow yajñ\acute{a}-$  ‘offering’

## Grassmann and Bartholomae

- Grassmann's law
  - $DVD^h \rightarrow D^hVT / \_C_{[-voice]}$ 
    - $/bod^h-sya-/ \rightarrow b^hotsya-$  'will awake'
- Bartholomae's law
  - $D^h + T \rightarrow DD^h$ 
    - $/bud^h-tá-/ \rightarrow budd^há-$  'awakend'
- Both locally restricted adjustments of laryngeal features



बहवो धन्यवादाः  
Thank you for your attention!