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Early Vedic

Phonology — Part 1: Segmental Inventory



Roadmap

- Phonetics
- Vowels
- Consonants
- Laryngeal *H

Phonetics

- Details on pronunciation available
 - allow to explore details of synchronic phonology
 - facilitate approaches motivated by articulation and perception
- Host of indigenous sources on phonetics
 - explicit information
 - from Prātiśākhya and Śikṣā
 - indirect evidence from
 - arrangement of segments (Varṇasamāmnāya)
 - some rules of Pāṇini's grammar

Vowels

- Three-way length distinction: short, long, extra-long (Pluta)
 - extra-long vowels secondary (see 2.3)
- Long vowels differ from short counterparts in quantity not in quality
 - except for /a/ and /ā/ (see below)
- In addition nasalized vowels indicated by <ṁ> or <ṃ> (Anunāsika)
 - N → <ṁ> / _S
 - /jí-g^hān-sa-ti/ → jíg^hāṁsati [dʒíg^hā̃:sati] ‘seeks to slay’

Vowels

- 6 monophthongs: /a/ [ʌ], /ā/ [a:], /i/ [i], /ī/ [i:], /u/ [u], /ū/ [u:]
- 4 diphthongs: /e/ [e:], /ai/ [aɪ], /o/ [o:], /au/ [aʊ]
 - only falling diphthongs
 - /e/ and /o/ sometimes shortened in external Sandhi (see 2.2)
- “Short” diphthongs /e/ and /o/ synchronically monophthongs
 - on historical level originate in diphthongs *ai and *au
 - *devá-* ‘god’ < **daivá-*
 - *ójas-* ‘power’ < **áuḷas-*

Vowels — Diphthongs

- Arise from contraction of /a/ and /ā/ with high vowels or glides
 - alternate with glides in resyllabification contexts (see 2.2)
 - /gāu-s/ → .gáuh. ‘bovine’ : / gāu-as / → .gā.vah. ‘bovines’
 - as demonstrated by ablaut (see 3.1)
 - śrutá- ‘heard’ : śrótu ‘shall hear’ : aśrauṣam ‘I heard’
 - formation of diphthongs with resonants unclear (see 2.3)

- Complex vowels parsed into nucleus as demonstrated by
 - phonotactics as only one segment allowed in coda (see 2.3)
 - /á-rāic-s-t/ → .á.ráik. ‘gave up’ : /a-krānd-s-t/ → .ák.rān. ‘roared’

Vowels — Simple Vowels

	Front		Central	Back	
High	/i/	/ī/ [i:]		/u/	/ū/ [u:]
Mid	/e/ [e:]			/o/ [o:]	
			/a/ [ʌ]		
Low			/ā/ [a:]		

Vowels — Syllabic Resonants

- 3 syllabic resonants: <ṛ> [ṛ], <ṝ> [ṛ:], <ḷ> [ḷ]
 - /ḷ/ marginal and restricted to forms of *kalp-* ‘arrange’
 - *kḷptá-* ‘arranged’
- Allophones of /r/ [r] and /l/ [l] respectively
 - compare ablaut (see 3.1)
 - *bḥṛtá-* ‘borne’ : *bḥárati* ‘bears’ : *ábḥārṣam* ‘I brought’

Consonants

- Two-way length distinction: short (singleton), long (geminate)
 - geminates represent innovation
 - *vr^odd^há-* ‘grown’ : YAv <vrəzda->
- 4 types of phonation: voiceless, aspirated, voiced, breathy voiced
- 6 places of articulation: velar, palatal, retroflex, dental, labial, glottal

Consonants — Oral Stops

	Voiceless	Aspirated	Voiced	Breathy Voiced
Velar	/k/	/k ^h /	/g/	/g ^h / [g ^h]
Palatal	/c/ [t͡ɕ]	/c ^h / [t͡ɕ ^h]	/j/ [d͡ʒ]	/j ^h / [d͡ʒ ^h]
Retroflex	/ʈ/ [ɖ]	/ʈ ^h / [ɖ ^h]	/ɖ/ [ɖ]	/ɖ ^h / [ɖ ^h]
Dental	/t/	/t ^h /	/d/	/d ^h / [d ^h]
Labial	/p/	/p ^h /	/b/	/b ^h / [b ^h]

Consonants — Oral Stops

- Palatals most likely affricates
 - indicated by representation at right word edge (see 2.3)
- <|> [ʃ] and <|ḥ> [ʃʰ] from optional replacement of /ḍ/ and /ḍḥ/
 - /ḍ, ḍḥ/ → <|, |ḥ> / V_V
 - /iḍā-/ → *i|ā-* ‘refreshment’

Consonants — Nasal Stops

Velar	ṅ [ŋ]
Palatal	ñ [ɲ]
Retroflex	/ɳ/ [ɳ]
Dental	/n/
Labial	/m/

Consonants — Nasal Stops

- Place-indifferent <ṃ> (Anusvāra) in coda position
 - /m/ → <ṃ> / _]_ω
 - /yajnáṃ/ → yajñáṃ ‘offering’
 - N → <ṃ> / _P
 - /yu-n-j-té/ → yuṃkté ‘joins’
- <ṃ> varies with assimilated nasal in tradition
 - but obligatory <ṃ> before /r/ and fricatives
- Substitution of <ṃ> for most part optional

Consonants — Fricatives

	Voiceless	Voiced
Glottal	h [h]	/h/ [ɦ]
Velar	ħ [x]	
Palatal	/ś/ [ç]	
Retroflex	/ʂ/ [ʃ]	
Dental	/s/	
Labial	ɸ [ɸ]	

Consonants — Fricatives

- In general ban on voiced fricatives
 - except for /h/ because of its place of articulation
 - from sporadic debuccalization of breathy voiced stops
- <ḥ> (Visarjanīya) represents debuccalized /s/ and /r/ (see 2.2)
 - due to assimilation <ḥ̣> (Jihvāmūlīya) and <ḥ̤> (Upadhmānīya)
 - rarely distinguished in editions

Consonants — Approximants

Palatal	/y/ [j]
Retroflex	/r/
Dental	/l/
Labial	/v/ [ʋ/v]

Consonants — Approximants

- Exact nature of /r/ unknown
 - indigenous sources disagree
 - probably variation in dialects
 - classified as “retroflex” due to position in Varṇasamāmnāyas

- Realization of /v/ depends on context
 - fricative [v] in onset clusters with approximants
 - otherwise C₁ position inexplicable
 - *vyácas-* ‘expanse’, *vratá-* ‘observance’
 - probably [ʋ] elsewhere

Laryngeal *H

- Proto-Indo-Iranian *H actually lost as segment
 - phonotactics suggest that fricative
 - no synchronic effects on segmental phonology
- Clear traces remain
 - inferable from metrical scansion in RV
 - can make position in *H-cluster if C_V
 - *jána-* [.dʒán.ʌ-] ‘people’ (– x) < *.ján.Ha-
 - cases of diaeresis in certain items
 - *tvam* [.tu.ʌm.] ‘you’ < *.tu.Ham.

Laryngeal *H

- Further traces include
 - epenthesis of /i/ in *H-cluster if C_C (see 2.3)
 - *pitár-* ‘father’ < **pHtár-*
 - lexicalized instances of compensatory lengthening
 - *ávr̥ṇak* ‘turned’ < **á-Hvr̥ṇak-t*
 - generalization of irregular ablaut (see 3.1)
 - *áyan* ‘went’ < **á-Hi-ant*
 - blocking of vowel contraction (see 2.2)
 - *rājantī asyá* (RV 6.70.2c) < **-iH*

बहवो धन्यवादाः
Thank you for your attention!