

# The behavior of semi-vowels in consonant harmony

Susannah V. Levi  
svlevi@indiana.edu  
Indiana University  
January 8, 2004 (LSA)

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“Perhaps the most problematic segment type for all theories of phonology is the class of glides.”

(Hyman 1985)

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## Phonemic Status of Semi-vowels

- Analysis 1: Semi-vowels are surface variants of underlying vowels.
  - Kaye & Lowenstamm 1984, Levin 1985, Deligiorgis 1988; 1993, Rosenthal 1994, (Steriade 1984)
  - Implies a single underlying source of surface vocoids.
- Analysis 2: Semi-vowels are distinct from underlying vowels.
  - Clements & Keyser 1983, Waksler 1990, Levi 2004, (Hayes 1989), (Hume 1995)
  - Implies that both vowels and glides are phonemic.

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## Types of glides

- “Derived Glide”
  - Surface glide that is derived from an underlying vowel (e.g. /i/ → [j])
- “Underlying Glide”
  - Surface glide that is derived from an underlying glide (e.g. /j/ → [j])

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## Tahltan

- Athabaskan language of British Columbia
- Data from Shaw 1991 and Hardwick 1984
- Will see that Tahltan has underlying glides and that they participate in CH

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## CH in Tahltan

- 5 “series” of coronals in Tahltan
  - D d t t'
  - DL dl tɬ tɬ' l ɬ
  - Dɔ̃ dɔ̃ tɔ̃ tɔ̃' ɔ̃ θ
  - DZ dz ts ts' z s
  - Dʒ dʒ tʃ tʃ' j ʃ/ç
- Regressive harmony from Dɔ̃, DZ, and Dʒ
  - D and DL are transparent to CH

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## CH in Tahltan: Basic Pattern

- Dð, DZ, and D<sub>3</sub> trigger CH
- Dð
  - [ni-θ-ðit] ‘I got hot’ /s/
- DZ
  - [ne-si-tets] ‘we went on a trip’ /θ/
- D<sub>3</sub>
  - [e-ʃ-d<sub>3</sub>ini] ‘I’m singing’ /s/
  - [i-ʃi-t[ot]] ‘we blew it up’ /θ/

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## CH in Tahltan: Glide

- The palatal glide triggers CH
  - (1) [e-ʃ-ja?e] ‘I’m sick’ /s/
  - (2) [ʔe-ʃi-ja?e] ‘we are sick’ /θ/
  - (3) [gade-ʃi-je] ‘we 2 are running’ /θ/
- /i/ does not participate in CH
  - (4) [ʔidi-s-tin] ‘I’m angry’ \*[ʔidi-ʃ-tin]
  - (5) [ne:θi-bin] ‘we were swimming’ \*[ne:ʃi-bin]

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## Converging evidence for underlying glides: voicing alternations

- Stem-initial pattern (nouns):
  - Underlyingly voiced (Non-alternating)
    - ja ‘sky’ /j/
    - jaʔ ‘louse’ /j/
    - ðaθ ‘snow’ /ð/
  - Underlyingly voiceless (Alternating)
    - tɛd esled ‘smoke’ /t/
    - çina esjina ‘slave’ /ç/

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## Converging evidence for underlying glides: voicing alternations

- Stem-final pattern:
  - Underlyingly voiceless (Non-alternating)
    - set -sete ‘hook’ /t/
    - geθ esgeθe ‘king salmon’ /θ/
  - Underlyingly voiced (Alternating)
    - mi:t esmi:le ‘snare’ /l/
    - bes esbeze ‘knife’ /z/
    - tsiç -tsije ‘weep’ /j/
    - tteç estleje ‘grease’ /j/

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## Sanskrit

- Indo-European
- Data from Whitney 1879, Cardona 1987, Cardona 2003
- Will see that Sanskrit has derived glides and that they do not participate in CH

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## N-retroflexion in Sanskrit: The basics

- Dental nasal surfaces as a retroflex after r and ś

  - (1) va:ri-ŋi ‘water-acc.’
  - (2) dveṣa:ŋi ---
  - (3) vṛk-ŋa ‘cut up-passive’
  - (4) kṣub<sup>h</sup>-a:ŋa ‘quake-middle’

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## N-retroflexion: Blocking

■ N-retroflexion is blocked by intervening coronal consonants.

– Dentals

■ mṛd-na: → \*mṛd-ṇa: 'rub/crush-pres.'

– “Palatals”

■ kroj'-ana- → \*kroj'-aṅa 'shouting'

– Retroflexes

■ mṛḍaṅa → \*mṛḍaṅa 'be gracious'

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## N-retroflexion: glide

■ Palatal glide does *not* block n-retroflexion

– tu:rv-aja:ṅa → \*tu:rv-aja:na 'victory-adj'

– har-aja:ṅa → \*har-aja:na 'proper name-adj.'

■ Similarly, front vowels do not block

– va:ri-ṅj → \*va:ri-ni 'water-acc.'

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## Converging evidence for derived glides: syllabic alternations

■ j is the non-syllabic counterpart of i (Uhlenbeck 1898)

■ The underlying vowel surfaces as a glide adjacent to another vowel.

(1) iti + a:ha → itja:ha ---

(2) stri: + asja → strj asja ---

(3) agni-b<sup>h</sup>ja:m → agnj-os 'fire'  
(dative) (locative)

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## Conclusions

■ There are two sources of surface glides:

1. Underlying vowel → surface glide (“derived glide”)
2. Underlying glide → surface glide (“underlying glide”)

■ Two types of glides pattern differently:

1. Derived glides pattern with vowels (do not participate in consonant harmony).
2. Underlying glides pattern with consonants (**do** participate in consonant harmony).

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## Acknowledgments

- Partially funded by fellowships from the American Association of University Women (AAUW) and the Association for Women in Science (AWIS)

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Thank you

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