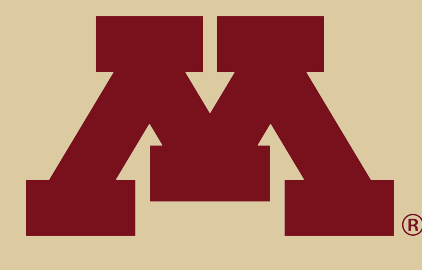


# An extrasyllabic account of North Sámi triple gemination

Christopher Geissler, Boston College  
Emily Posson, University of Minnesota  
[geissle@bc.edu](mailto:geissle@bc.edu), [emilyposson@gmail.com](mailto:emilyposson@gmail.com)



## Background

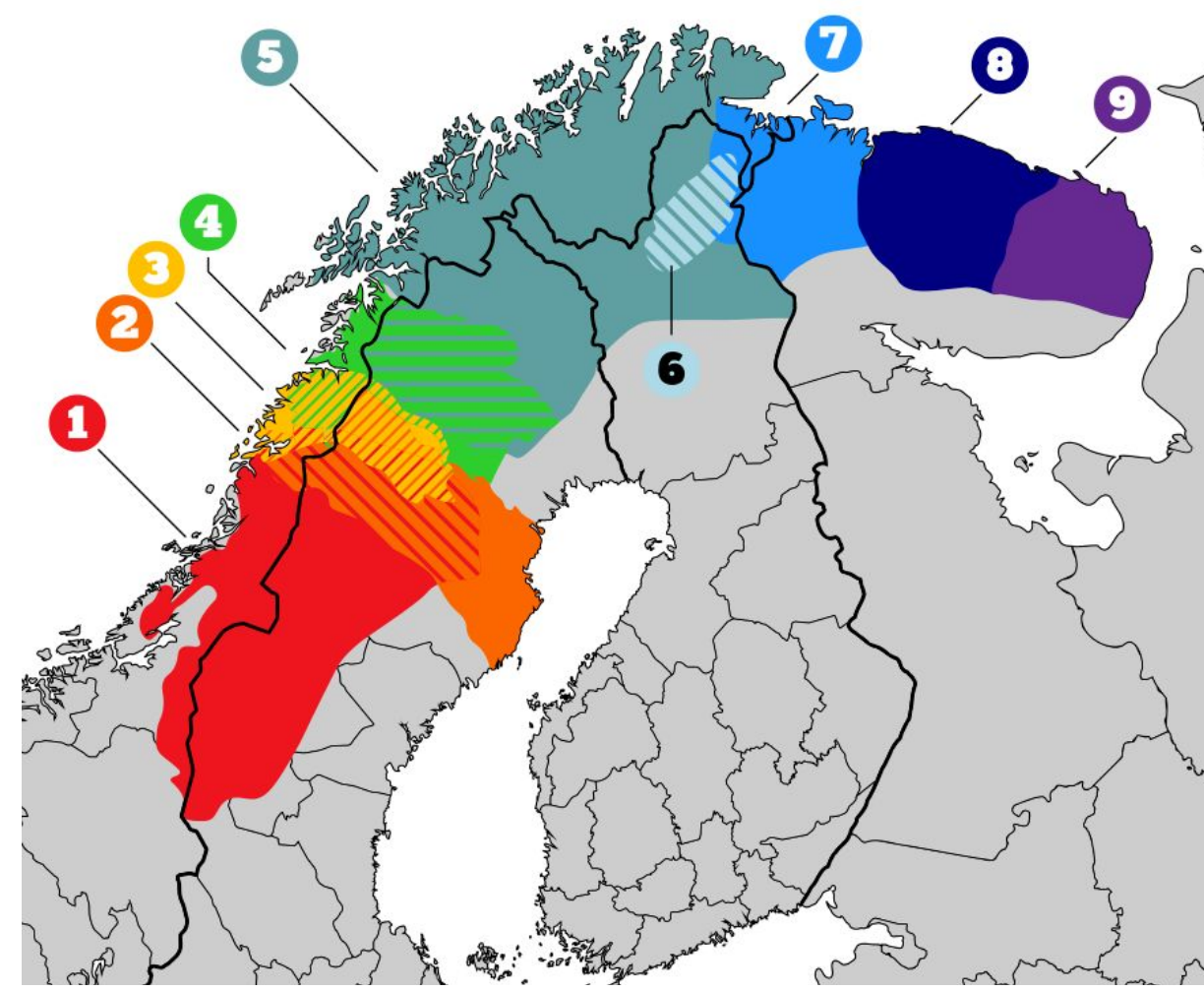
**North Sámi 5:** Uralic, ~26,000 speakers

### Three-way Consonants:

- [ruosa] 'Sweden'
- [ruossa] 'Cross' acc. sing.
- [ruosssa] 'Cross' nom. sing.

### Two-way Vowels:

- [golli] 'Gold' nom. sing.
- [goolli] 'Gold' acc. sing.



**Extrasyllabicity:** generally described:

- at word edges
- word-medially, where C's can't be either onset or coda (Polish: Rubach & Booij 1990, French: Rialland 1994)

## Length alternations

**Gradation:** several morphological alternations.

→ shorter C in "weak grade", longer C in "strong grade"

**Generalizations (Bals Baal et al. 2012):**

(1) Short C alternates with long CC after long vowels, but with overlong CCC after short vowels.

- Q1~Q2: VVC→VVCC
- Q1~Q3: VC→VCCC

(2) Long CC alternates with overlong CCC, accompanied by vowel shortening:

- Q2~Q3: VVCC→VCCC

**Phonotactics:** geminates obligatorily word- and foot-medial

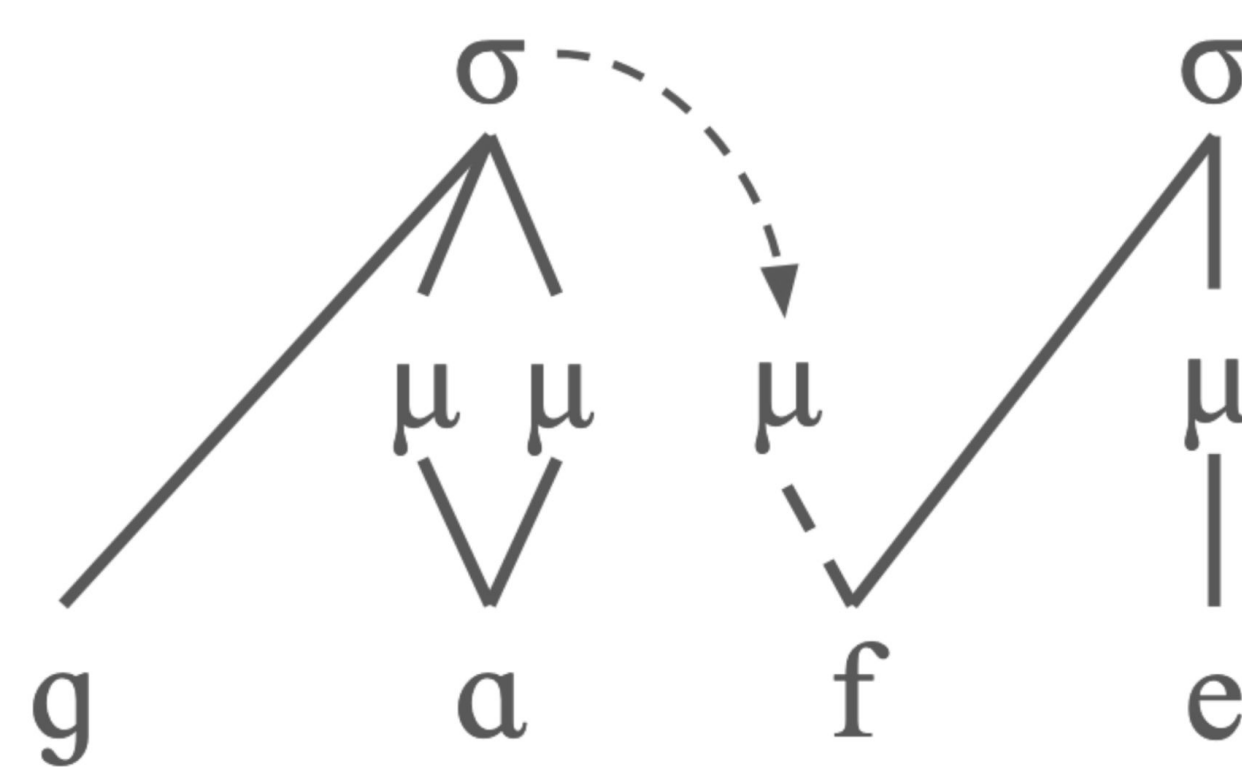
## Analysis

Extrasyllabic moras are licensed following heavy syllables.

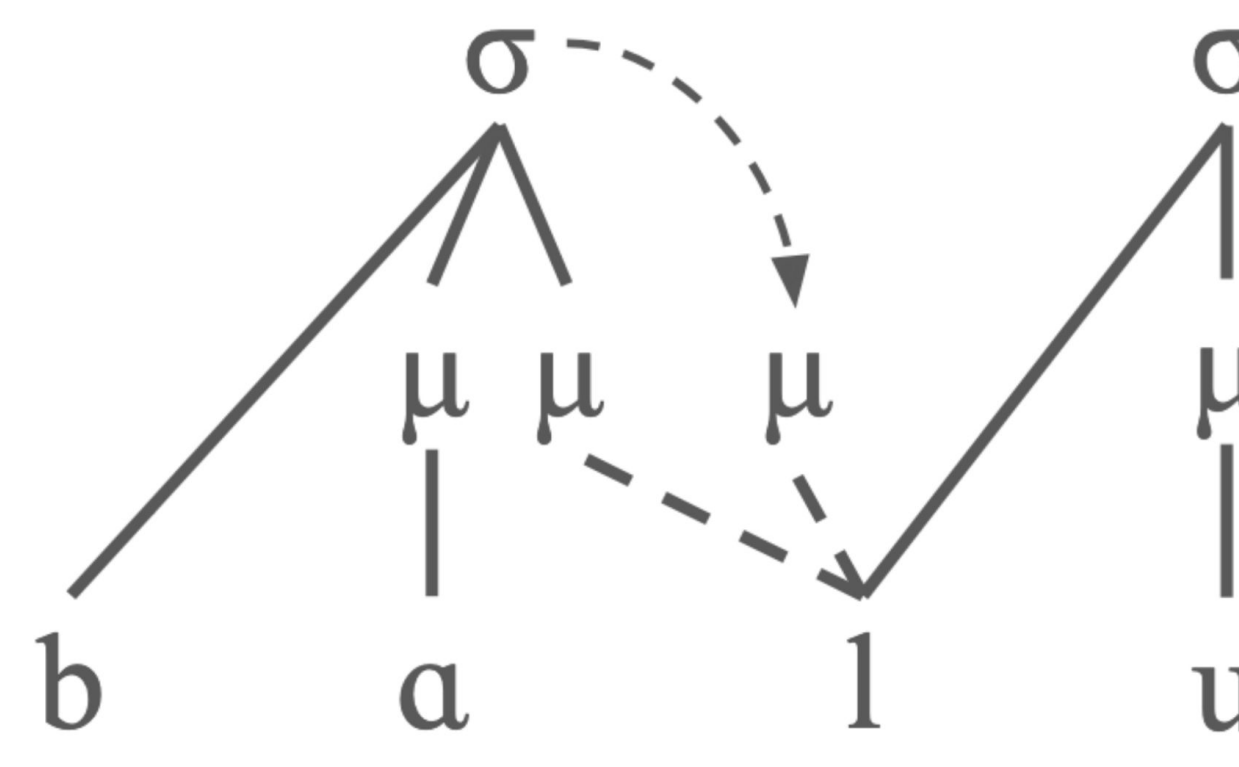
Strong grade is formed by lengthening the medial consonant.

- If /VV.C/:  
insert extrasyllabic coda (3)
- If /V.C/:  
need *also* insert mora (4)
- If /VVC.C/:  
need compensatory shortening (5)

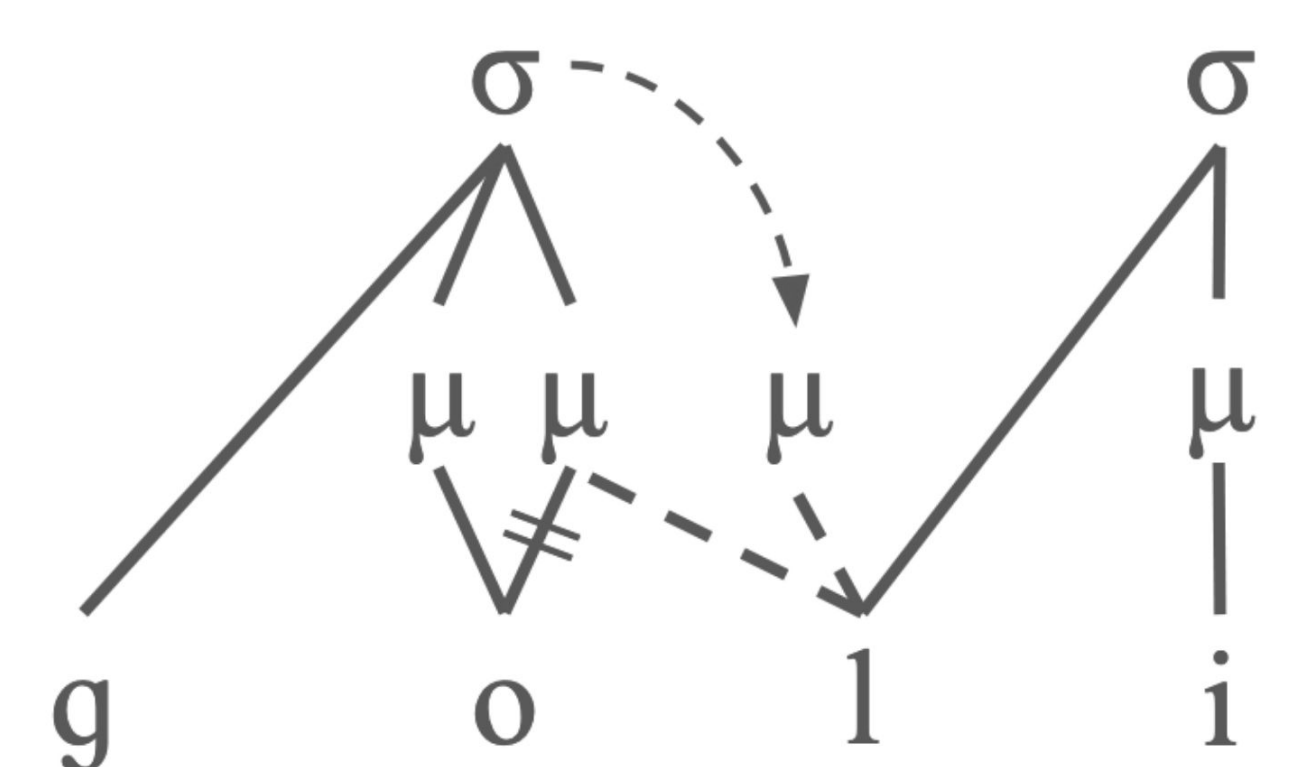
(3) Q1~Q2  
[gaafe]~[gaaffe]  
'coffee (acc sg~nom sg)'



(4) Q1~Q3  
[balu]~[balllu]  
'fright (acc sg~nom sg.)'



(5) Q2~Q3  
[goolli]~[gollli]  
'gold (acc sg~nom sg.)'

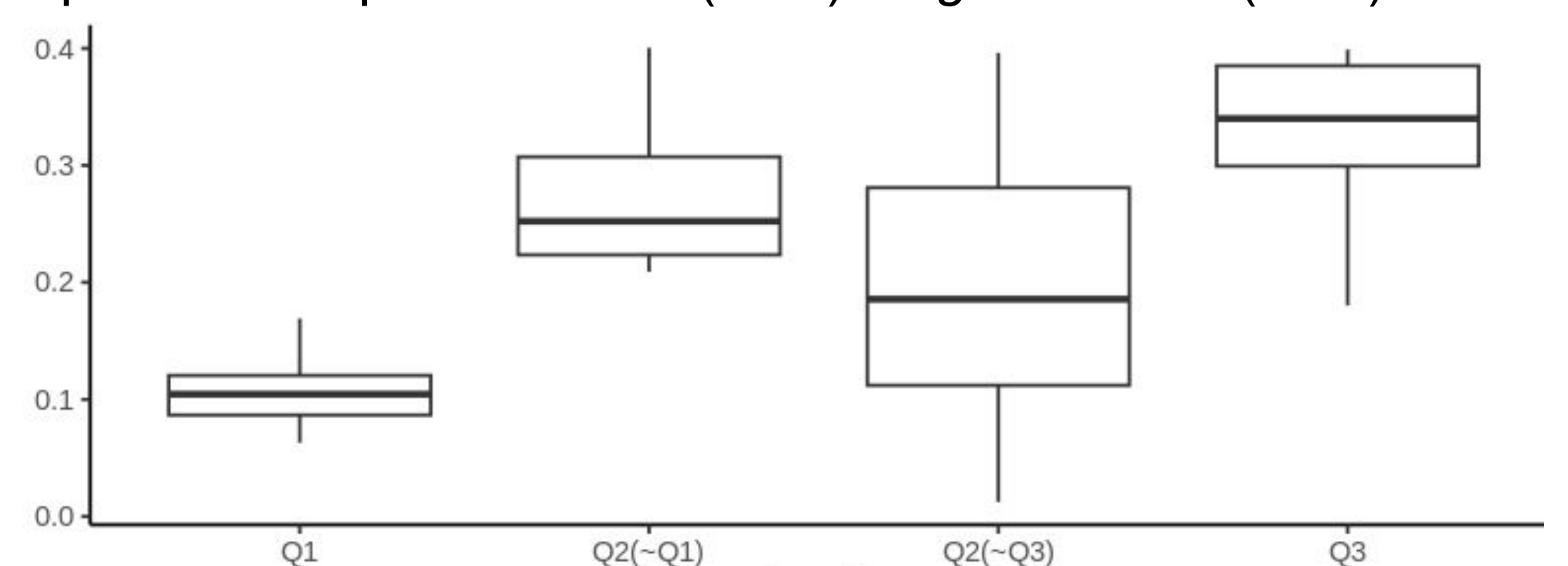


## Implications

- Aligns with ~1:2:3 ratio of phonetic duration (Hiovain et al. 2020)
- Explains co-occurrences of C and V lengths
- Expands the typology of attested extrasyllabic positions
  - resembles proposals that present multiple degrees of affiliation between a syllable and its consonants (e.g. Fujimura 2000, Shaw et al 2011).
- Explains diachronic conditions necessary to allow a 3-way consonant length contrast to arise.

## Questions

- Variation; Q2-Q3 merger in progress?
- Phonetic duration relationship: in Q2 & Q3, longer V ~ shorter C
- Dispersion? In pilot data: Q2(~Q1) *longer* than Q2(~Q3):



## References

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