

The effects of three-way consonant distinction in Northern Saami

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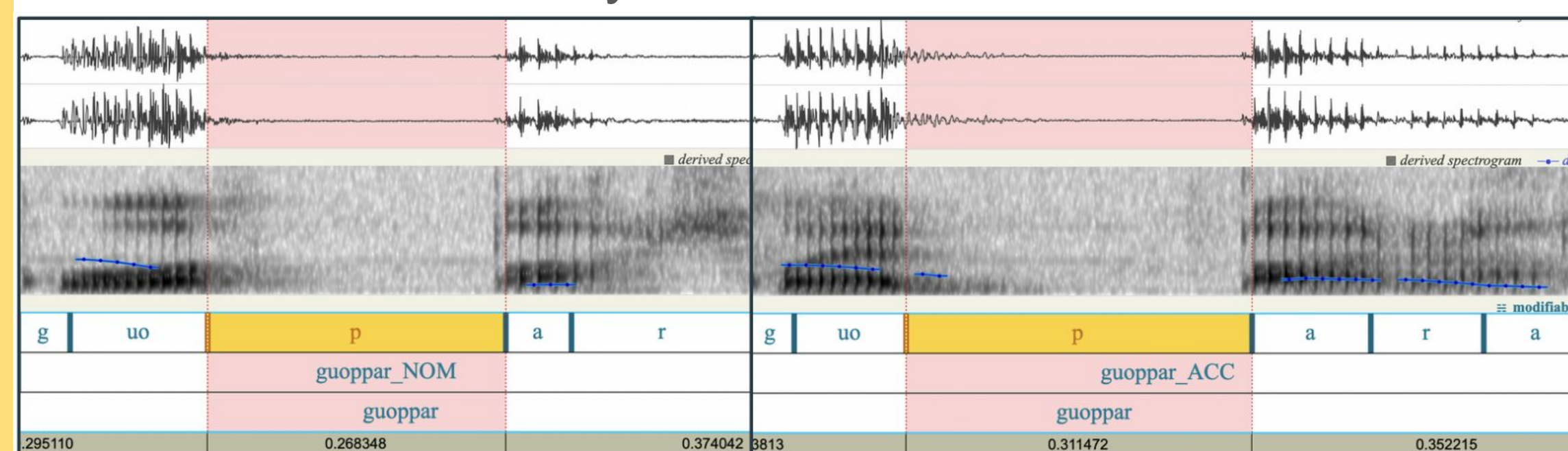
Typology

- **Northern Sámi:** Uralic family, abt. 26,000 speakers
- **Three-way Consonants (all related):**
 - Estonian
 - Other Sámi languages (e.g. Skolt, Inari)
 - Endangered Finnic languages (e.g. Livonian, Ingrian)
- **Three-way Vowels:**
 - Dinka/Shilluck (Nilotic languages in South Sudan)
 - Yupik (Eskaleut languages in Alaska/East Russia)
 - Mixe (Mixe-Zoquean languages in Mexico)

Background

There are conflicting reports regarding the status of three-way contrasting consonant length in Northern Sámi, particularly between the Eastern and Western Finnmark dialects.

- The three lengths are generally referred to as **Quantity** (Q1, Q2, Q3) with Q1 being the shortest.
- The consonant lengths occur with most consonant types.
- In **nouns**, the Quantity types alternate between Nominative and Accusative case. Some nouns alternate between Q1 and Q2, others between Q2 and Q3, and rarely between Q1 and Q3.



Method

- Research study conducted in Tromsø, Norway
- **Three participants:**
 - XMS: Western dialect, 25, from Guovdageaidnu
 - IL: Eastern dialect, 20, from Kárásjoka
 - AJ: Eastern dialect, 60, from Kárásjoka
- **Carrier Sentences:**
 - *Dá oidno* _____ (for Nominative case)
 - *Mun oainnán* _____ (for Accusative case)
- **Praat:** 26 words manually segmented

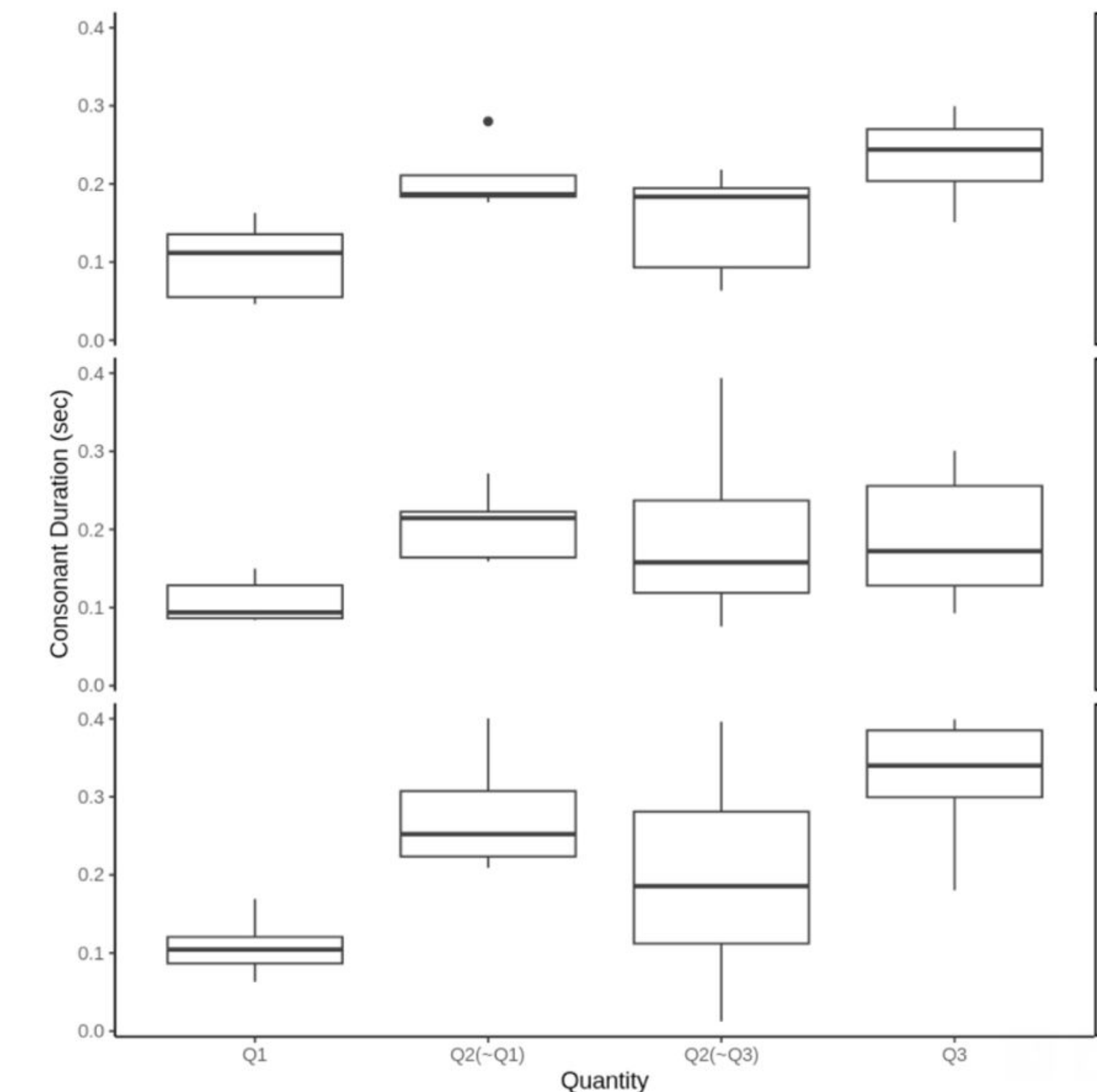
Empirical Results

Box Chart Explanation:

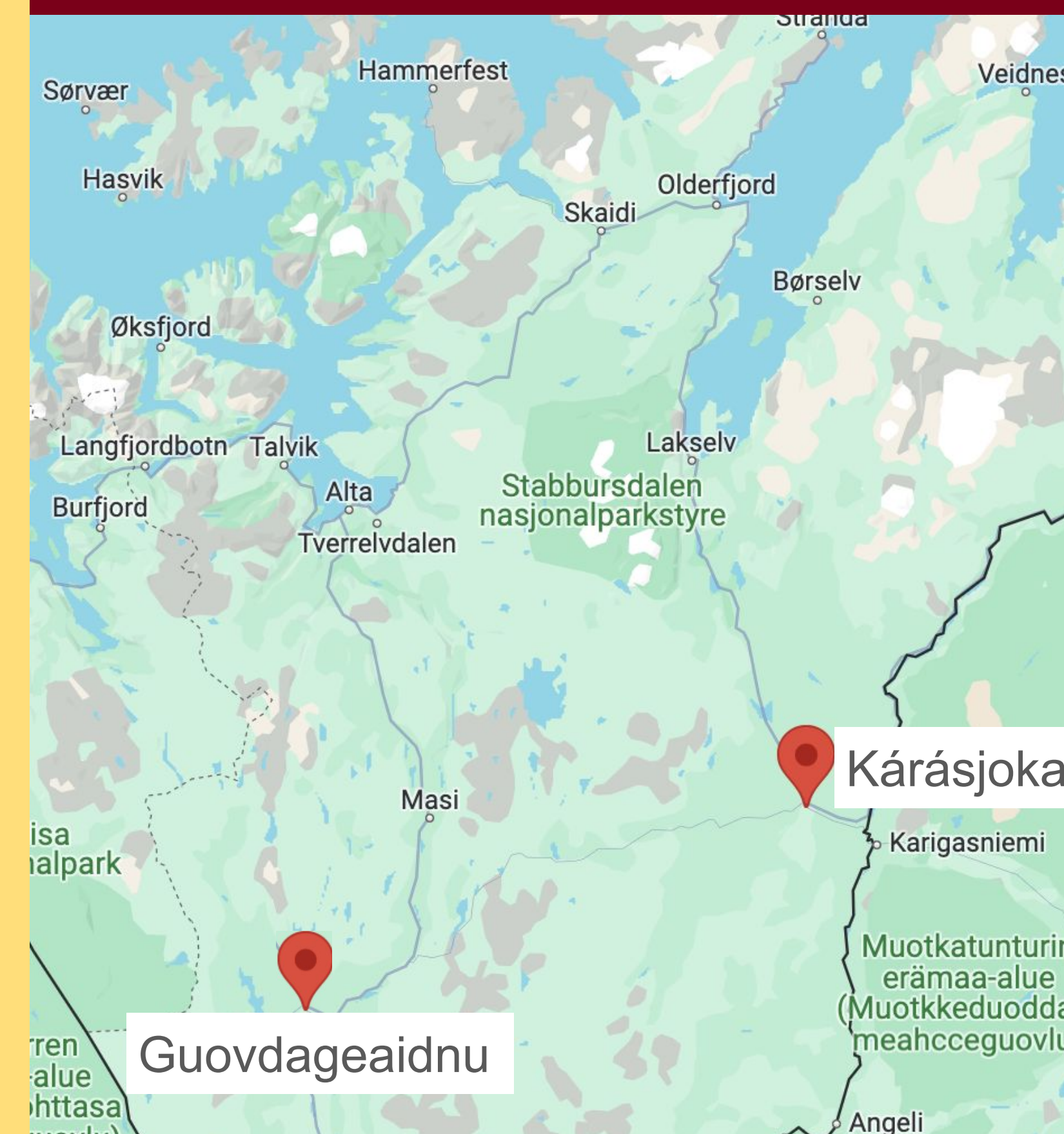
- Y-Axis on the left tracks the lengths of consonants
- Y-Axis on the right labels the speaker
- X-Axis gives the expected Q-type:
 - Q1: Shortest length
 - Q1~Q2: Middle length alternating with a Q1
 - Q2~Q3: Middle length alternating with a Q3
 - Q3: Longest length

Results:

- Speaker 1 (S1) has the three-way contrast, as expected
- Speaker 2 (S2) has collapsed the contrast between Q2 and Q3 (i.e. has lost the third length)
- Speaker 3 (S3) has the most extreme contrasts between all three length types

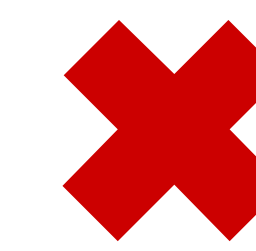


Map



Speaker 2

From Kárásjoka
No three-way contrast



Speaker 3

From Kárásjoka
Three-way contrast



Conflicting Reports

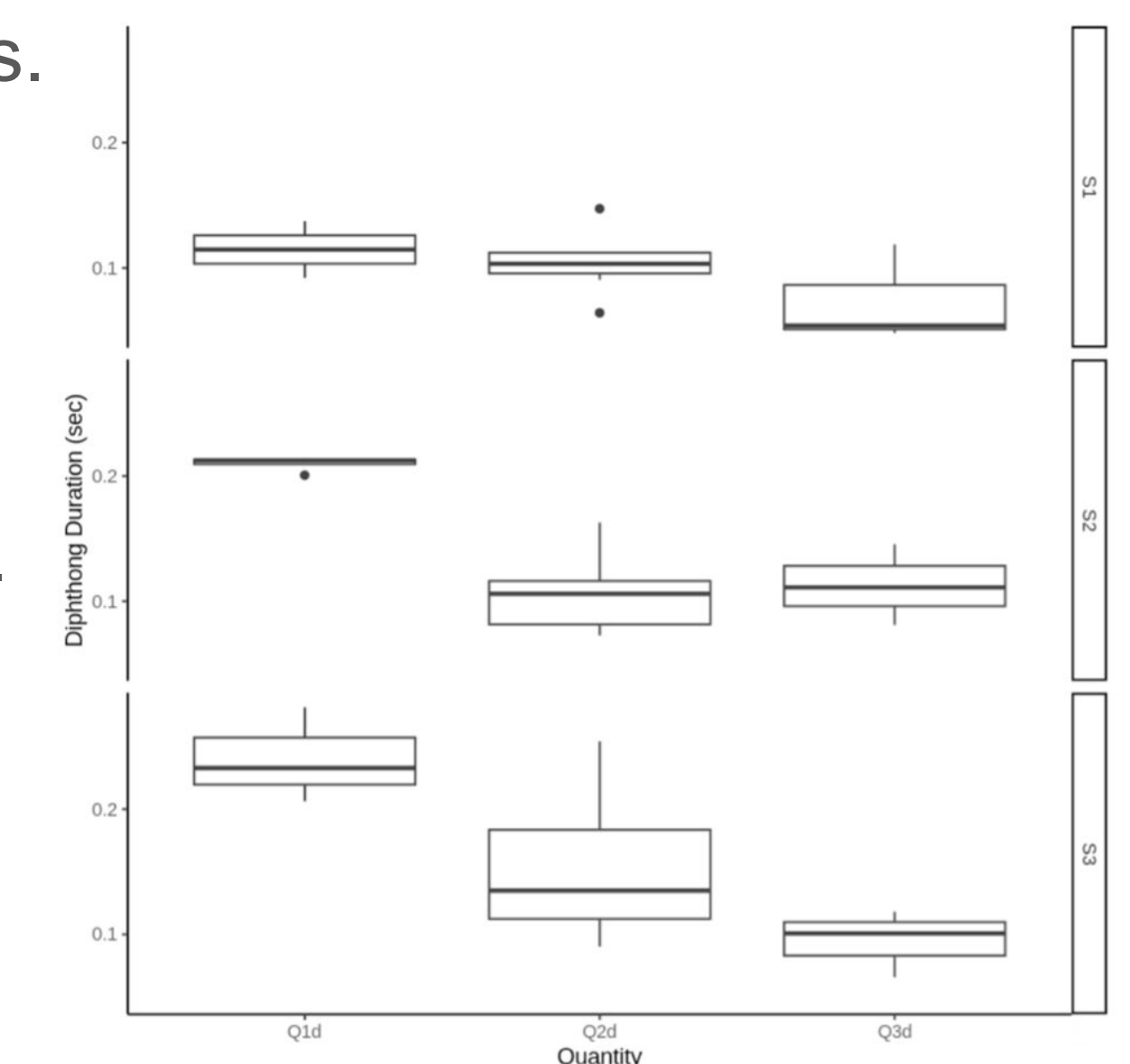
Sammallahti (1998): “The western dialects have retained the phonological opposition between long and short geminates, but the eastern ones have transferred the opposition to the vowels.” (p. 13)

Hiovain et al. (2020): Found that the western dialect did *not* have the three-way contrast (contrary to the majority of other studies). Found the eastern dialect *did* have the contrast (but only in the case of short preceding vowels)

Diphthong Durations

Diphthongs in the context of the three quantities (X-Axis) are placed in contrast to their durations.

- S1 does not appear meaningful
- S2 has a strong two-way contrast
- S3 has a strong three-way contrast



Summary

- Speaker 1 has the three-way contrast, following the pattern of most studies
- Speakers 2 and 3 diverge unexpectedly - one has the three way contrast, the other does not. This indicates that more research needs to be done on the Eastern dialect.
- Diphthongs do not appear to have a third length in Speaker 2. However, Speaker 3 initially appears to have a three-way difference.
- It appears that there may be an interaction between consonants and vowels, but only in speakers 2 and 3 of the Eastern dialect.

References:

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