VARIATION IN THE REALISATION OF A GLOTTAL STOP [ʔ] IN LEIVU SOUTH ESTONIAN

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Introduction

Leivu South Estonian was a Finnic language spoken until 1988 in northeastern Latvia.

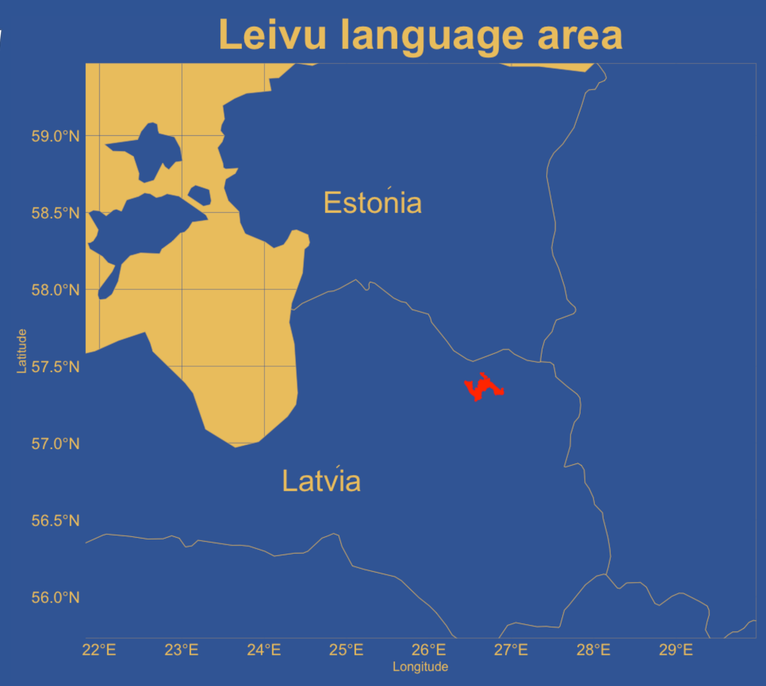
Glottal stop [ʔ] is a phoneme with multiple functions, e.g.:

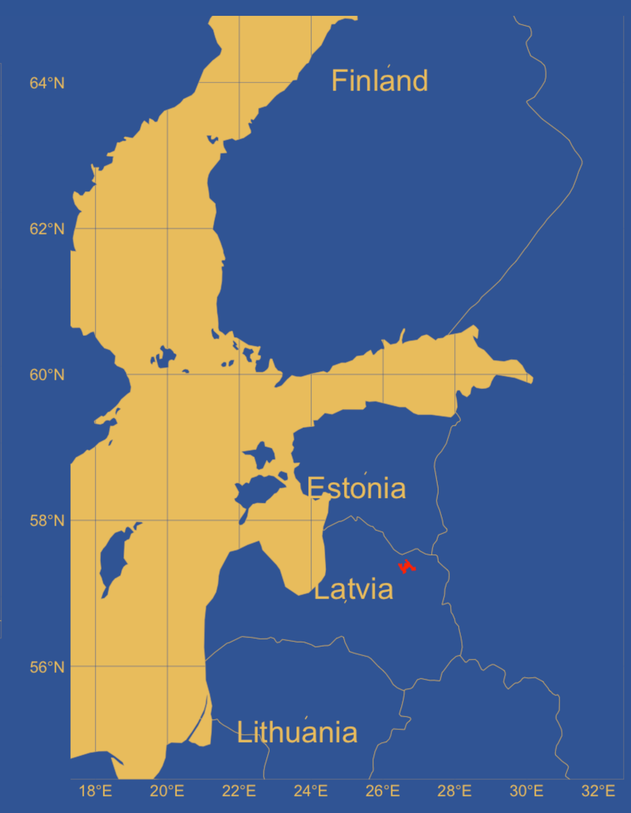
plural marking — *muna* 'egg',
*muna***ʔ** 'eggs', < Proto-Finnic **munat*

imperative — *istu* 'sit.1SG'
*istu***ʔ** 'sit.IMP'. < Proto-Finnic **istuk*

Despite the grammatical importance, the proportions of realised and unrealised glottal stop are

/ʔ/	19.1%	421/2200,
Ø	80.9%	1779/2200





Research questions

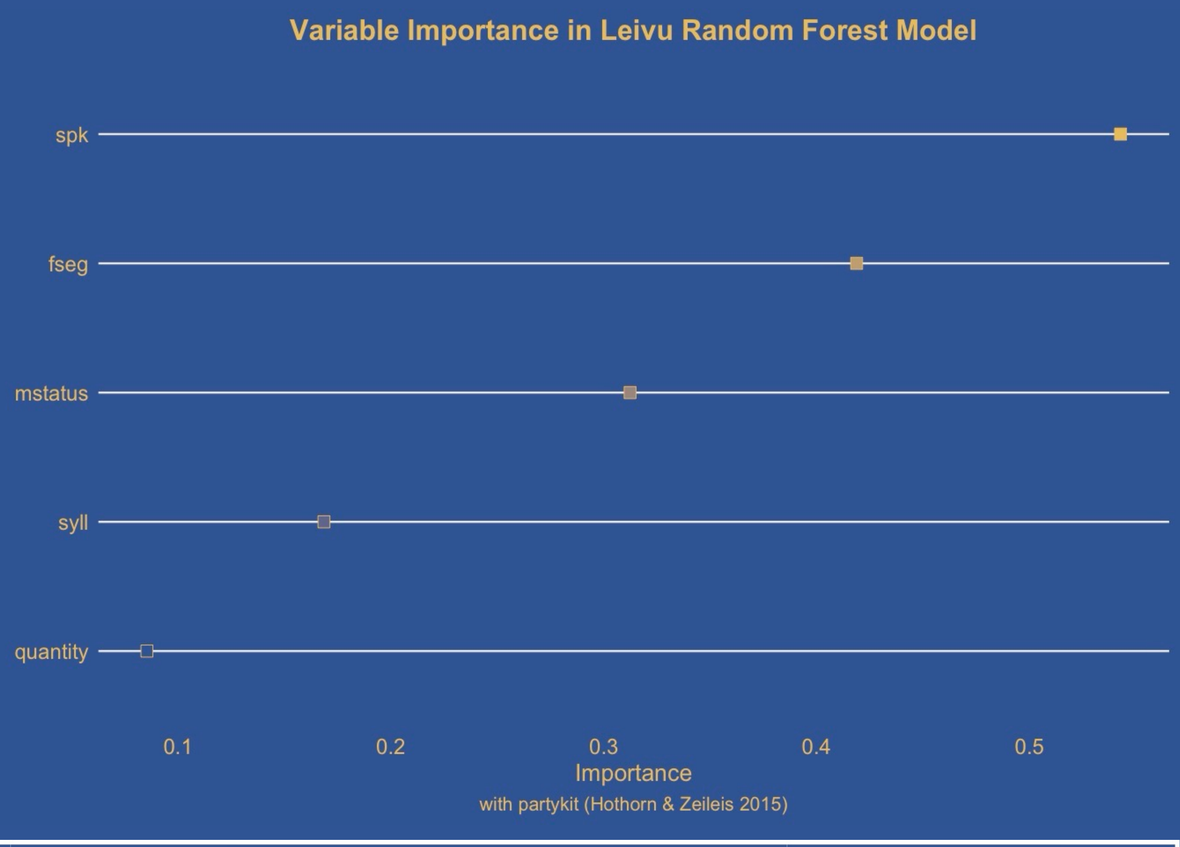
What affects the variation /ʔ/ ~ Øʔ
Are there differences between the speakers?

Methods

The speech of 6 Leivu-Latvian bilingual speakers recorded between 1956–1971 were transcribed.

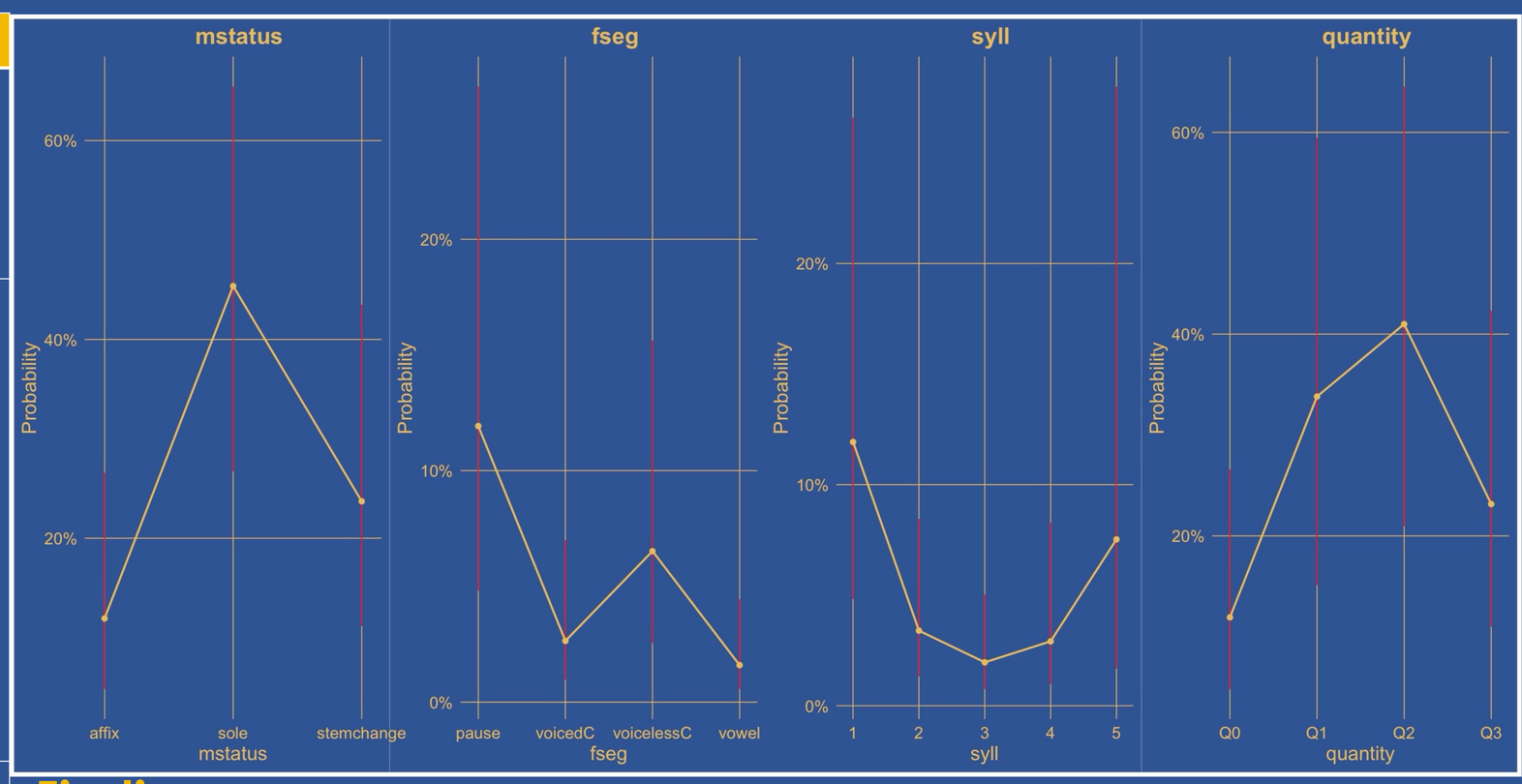
2200 instances of phonemic glottal stop [ʔ] and their phonological realisations (*gs*) were manually extracted and encoded for morphophonological and sociolinguistic variables. Encoded variables and their levels are given in the table.

Initially, random forest models were used to identify the most important variables using the *randomForest* package (Liaw & Wiener 2001) in R. Then incremental modelling was applied to find the best mixed-effects logistic regression model to explain the variation in the use of the glottal stop.



Coded variables (N = 2200; ʔ "yes" = 421, ʔ "no" = 1779)

Variable	Description	Levels
gs	Realisation of a glottal stop	no = /ʔ/ was realised as Ø yes = /ʔ/ was realised as [ʔ], creaky voice or a gemination of a following consonant
mstatus	Morphological status of a phonological glottal stop	affix = /ʔ/ is part of a suffix (e.g., *käüle-de***ʔ** 'walk-SG2') stemchange = glottal stop is the only grammatical marker, but the stem also changes (e.g., *rügä* : *rüä-***ʔ** 'rye.PL') sole = glottal stop is the only grammatical marker (e.g., *kala* : kala-ʔ 'fish.PL')
syll	Number of syllables in a token	1, 2, 3, 4, 5
quantity	Prosodic length (quantity degree) of a token	Q0 = unstressed monosyllabic words Q1 = first quantity Q2 = second quantity Q3 = third quantity
fseg	Segment following the glottal stop	vowel = vowel followed /ʔ/ pause = pause followed /ʔ/ voicedC = voiced consonant followed /ʔ/ voicelessC = voiceless consonant followed /ʔ/
spk	Speaker	N = 6



Findings

The principle of economy is evident: if the pronunciation of /ʔ/ is not absolutely necessary for distinguishing the form, it is almost always omitted. For the listener's understanding, it makes no difference whether *kiele-gaʔ* or *kiele-ga* 'language-COM' is said. However, when the glottal stop is the only element distinguishing meaning (e.g., *tarõ* : *tarõʔ* 'room : room.PL'), it is pronounced in Leivu on average more than twice as frequently.

There were significant differences between the speakers.

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References

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