

Heritage language obstruent
phonetics and phonology:
American Norwegian

Fefor, Sept 22, 2011

Brent Allen and Joseph Salmons

Goals

- There is virtually no **phonetic/phonological description of immigrant Norwegian**. We provide some initial data for obstruents.
- We use **van Coetsem's model** of 'borrowing' and 'imposition' in language contact.
- We provide **new evidence for 'laryngeal realism'**.
- We hypothesize that **Norwegian and English spoken by Norwegian-American bilinguals will both show influence from the other language, but asymmetrically**.

Roadmap

- §1 Background
 - ▣ 1.1 Language-contact theory
 - ▣ 1.2 Phonetics and phonology
 - ▣ 1.3 Community and speakers
- **§2 Sonorant devoicing**
- **§3 Intervocalic voicing**
- **§4 Final laryngeal contrasts**
- **§5 Conclusions**

Language contact

Stability gradient: Borrowing versus imposition (Howell 1993: 189)

More open to borrowing	←	Less open to borrowing
Less affected by imposition	→	More affected by imposition

Less stable domains:

lexical items, derivational
morphology

More stable domains:

phonology, inflectional
morphology, semantic system,
syntax

L2 > L1 interference, Eckman & Iverson

Phonetic:

- Dutch speakers very proficient in English develop more aspiration in Dutch.

Phonological:

- English may have introduced word-initial /v/ (≠ /v/) from Norman influence.
- German introduced nasalized vowels from French contact.

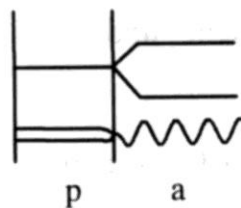
Haugen (1953:394) *reborrowing*

- “The loan is ... subject to continual interference from the model in the other language.”

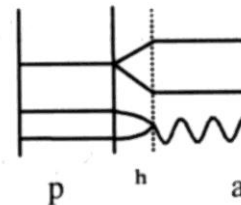
- *tavern* *crackers* *lake*
- Older ta`van kræk'is le'k
- Younger tæ'vəɾn kɾæ'kəɾs lei'k

Laryngeal realism

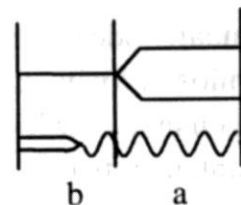
- 'Voice' = several distinct phonological features.
- Stops fully voiced vs. unasp. (Polish, French) or aspirated vs. passively voiced (English, German)
- Patterns of assimilation, historical change ...



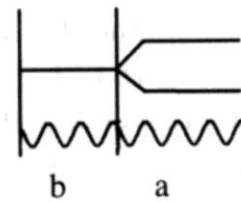
(a) unaspiriert



(b) aspiriert



(c) partiell stimmhaft

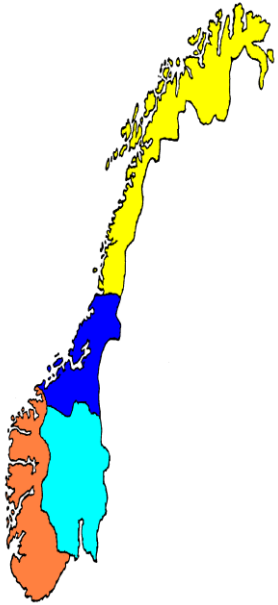


(d) stimmhaft

Norw-Eng phonetics/phonology

- English = [spread glottis], Norwegian = ?
- Norwegian lacks ‘sonorant devoicing’ with /s/.
- English contrasts /s/ ≠ /z/, while Norwegian has only /s/.
- English uses different **enhancements** to signal final contrasts: *bed* vs. *bet* by vowel length. Norwegian uses mostly voicing.

2. Community and speakers



Very different speakers from one small community:

- **Mandal** area, southernmost area of West Norwegian (1924, New York > Calif. > Minn., daughter of immigrants)
- **Trøndelag** Norwegian (1929, classic heritage speaker, gen3)
- **Nordland**, near Mo-i-Rana, North Norwegian (1937, gen3, lived in Oslo for 2 years)

3. Sonorant devoicing

- Not much has been published in English, German or French that covers substantial portions of Norwegian phonology. ... Also when we turn to what is published in Norwegian, the account will by no means be impressive.”

—Kristoffersen (2000:10)

- Less is known about consonant phonetics, it looks like!

Sonorant devoicing

- play [p_hl]
- clay [k_hl]
- slay [sl]
- The glottis is spread for the production of a p, k, s, etc. and it takes longer to the vocal folds to come together (for voicing) than it does to produce the consonant. So, the liquid devoices.
- Kristoffersen: **“devoicing does not take place after /s/”**, in forms such as /s/: slå /slo/ [ʃlo:] ‘to beat’, and svi /svi/ [svi:] ‘to burn’. (Similar: Popperwell)

Heritage Norwegian

Token	DurAsp	SonDev	SonVoi	%Pul
pleasure1.wav	0.049	0.041	0.038	47.85
sledge1.wav	0.114	0.034	0.057	62.99
slips1.wav	0.100	0.023	0.022	49.00
Average	0.088	0.033	0.039	53.28

Speaker fdly_m01 English

Token	DurAsp	SonDev	SonVoi	%Pul
klokkar1.wav	0.014	0.016	0.030	65.06
pliktet1.wav	0.035	0.022	0.022	51.03
slepp1.wav	0.129	0.033	0.039	53.92
Average	0.060	0.023	0.030	56.67

Speaker fdly_m01 Norwegian

Norwegian Norwegian

	Hammerfest	Skaugdalen	Fredrikstad	Lyngdal	Stryn
pr	34.34	29.89	51.55	17.12	46.61
pl	35.87	72.19	80.51	27.37	55.19
tr	17.02	39.97	59.40	8.11	34.65
kr	34.90	47.64	49.09	12.91	51.09
kl	32.98	59.61	76.03	19.77	50.81
kn	29.74	40.89	40.46	46.69	60.78
sl	28.19	49.57	40.30	30.46	45.03
sn	34.79	42.11	56.13	47.51	50.60

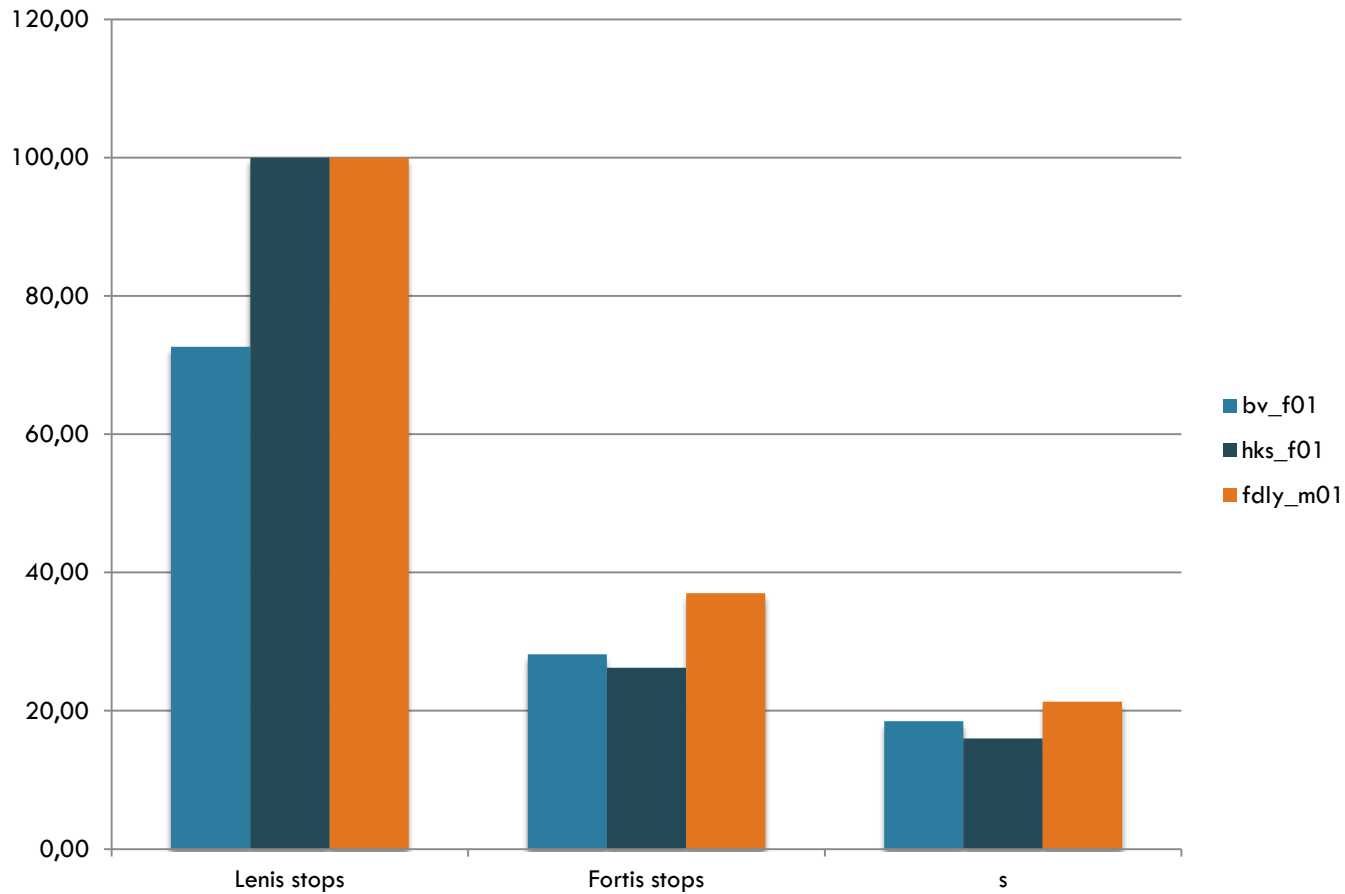
Not even **that** simple

- Norwegian data often has schwa epenthesis before flapped /r/ and retroflex flapped /l/.
- = no sonorant devoicing for good reason.
- Endresen 1989: a common feature in Norwegian
- *open overgang* (open transition), contrasting with
- *tett overgang* (tight transition) in English, referring to the amount of articulatory overlap in consonant clusters.

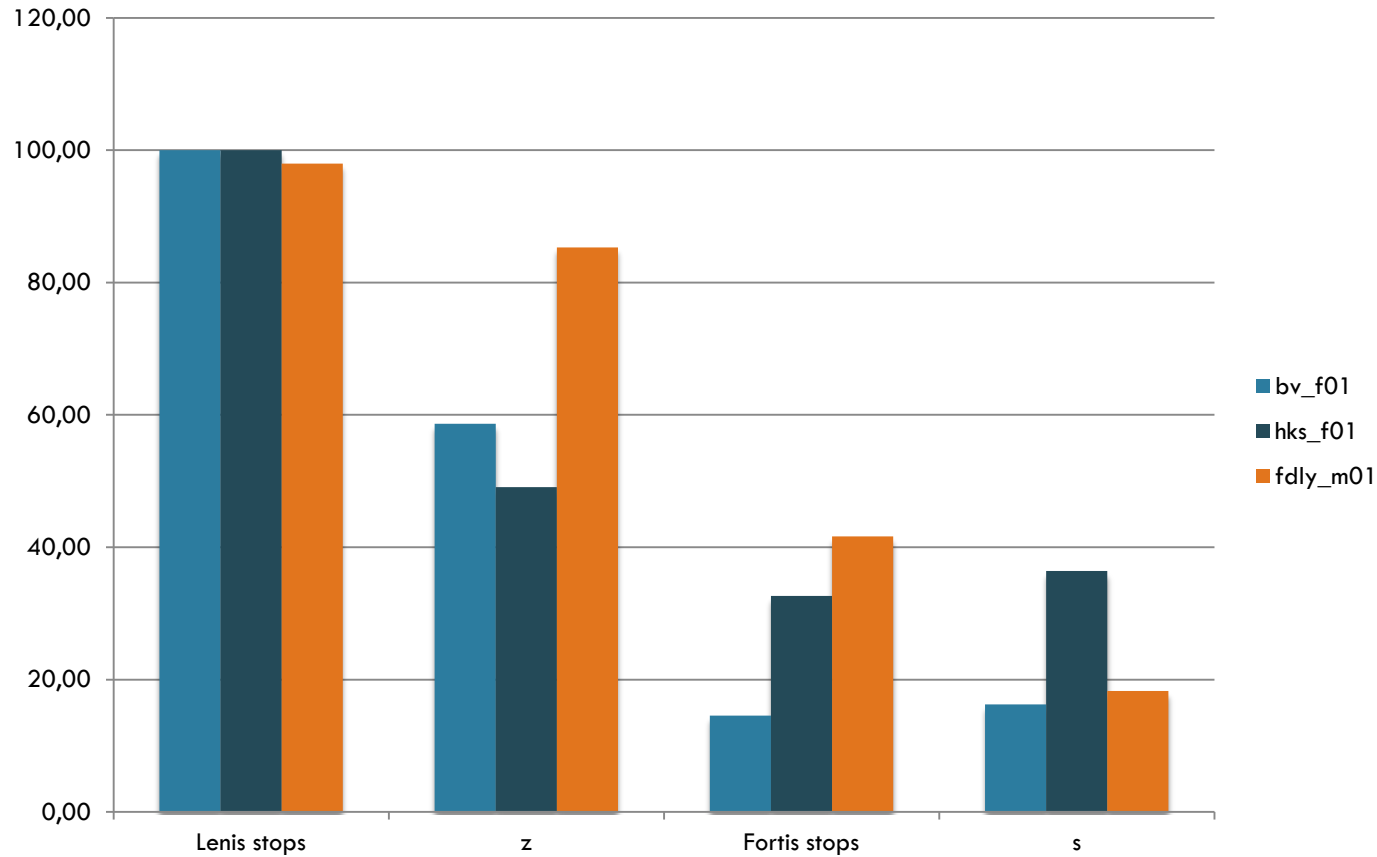
/s/ and passive voicing

- If Norwegian /s/ lacks specification for [spread glottis], it should passively voice, with other obstruents.
- Even if Norwegian Norwegian /s/ doesn't, American Norwegian might have changed in this regard.

Norwegian medial single C: %GP



English medials: % GP



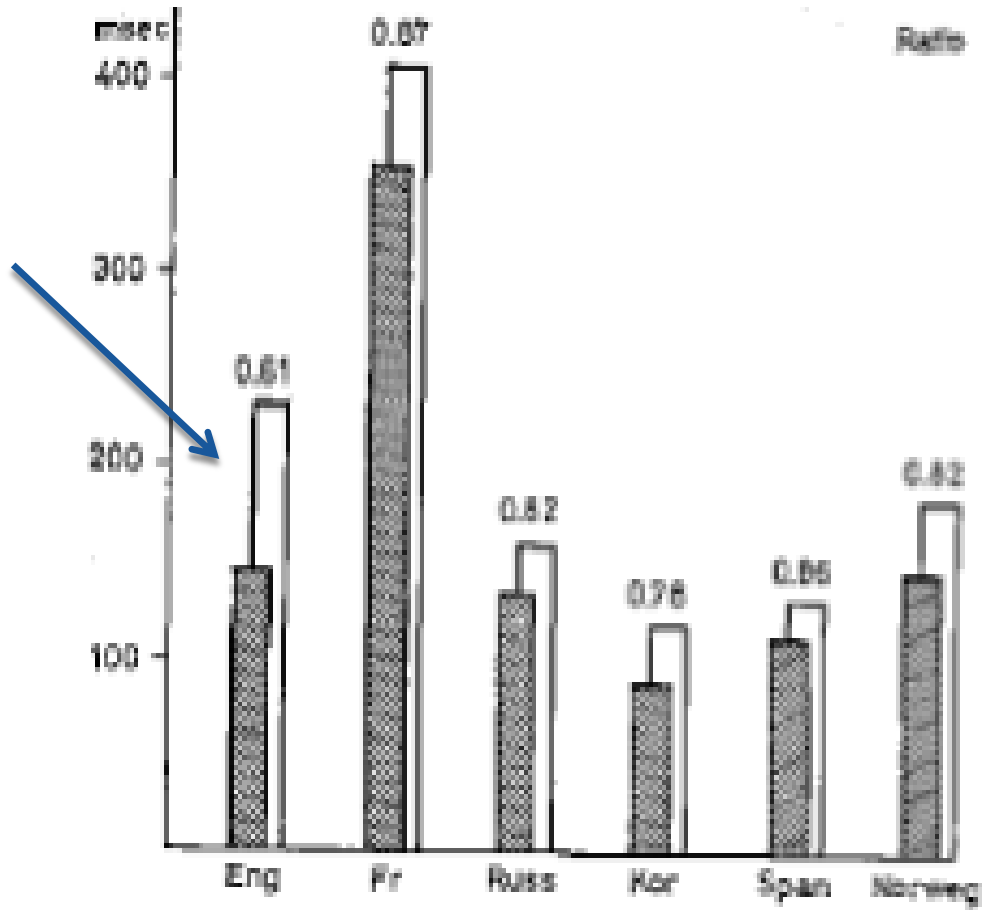
Why would /s/ do this?

- Fintoft (1961) in fact indicates that /s/ is the longest of Norwegian stops, fricatives, nasals, liquids.
- Stevens et al. 1990 on how listeners perceive fricative voicing:
- “listeners base their voicing judgments of intervocalic fricatives on an assessment of the time interval in the fricative during which there is no glottal vibration. This time interval must exceed about 60 ms if the fricative is to be judged as voiceless.”

Final laryngeal distinctions

- Languages show longer vowel duration before a voiced or lenis coda consonant than before a fortis or voiced one.
- English is widely reported to show this to a much greater extent than other languages.

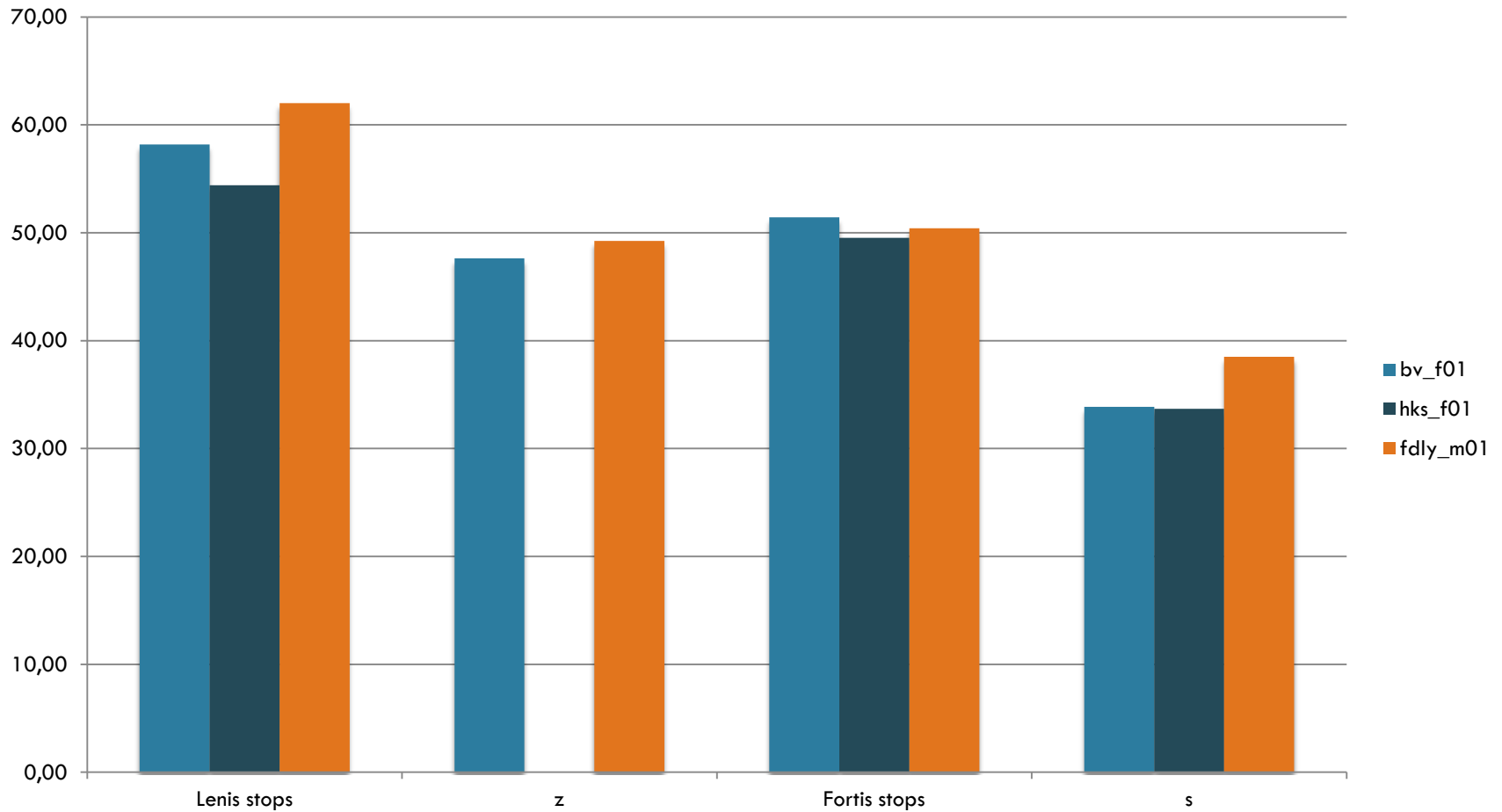
Chen (1970:138)



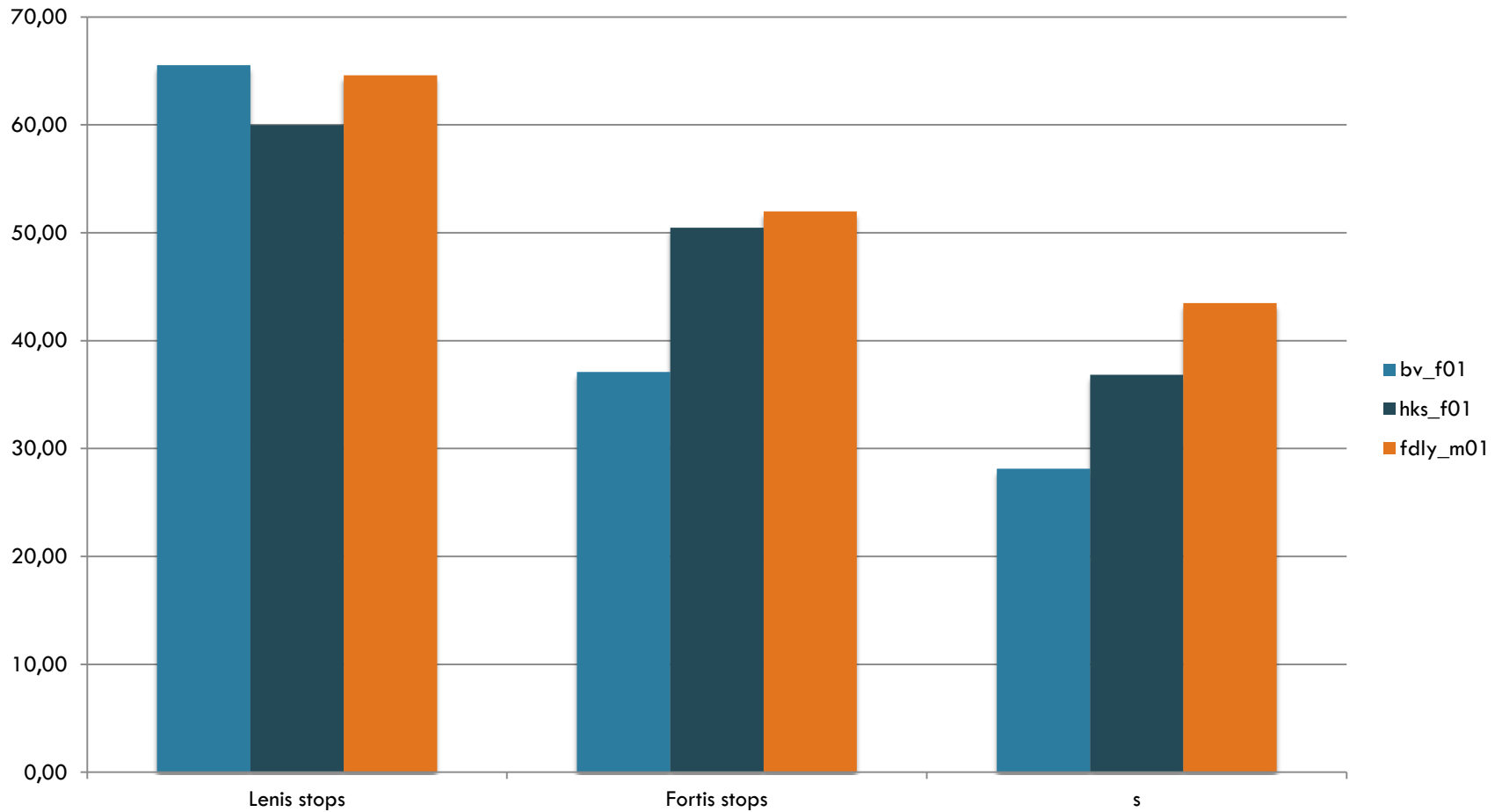
Upper Midwest

- Recent research (especially Purnell et al. 2005a, 2005b, Annear et al. 2011) has shown that some parts of the region appear to be undergoing a neutralization of the distinction
- Eastern Wisconsin: neutralization, heavily settled by German-speaking immigrants
- (Anglo-) Southwestern Wisconsin: remains very distinct.
- American Norwegian: ?

English finals: V-to-C ratio

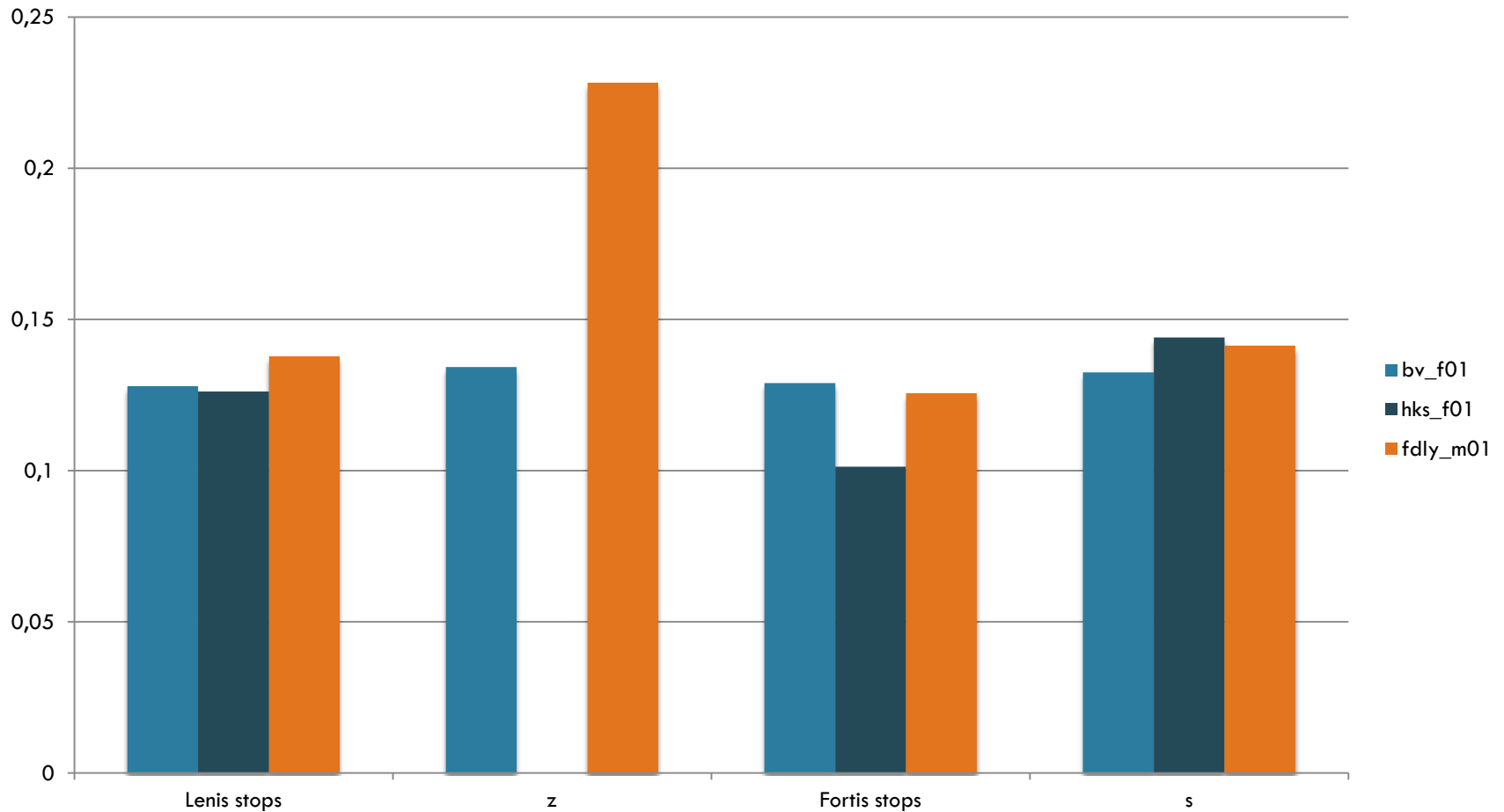


Norwegian finals: V-to-C ratio

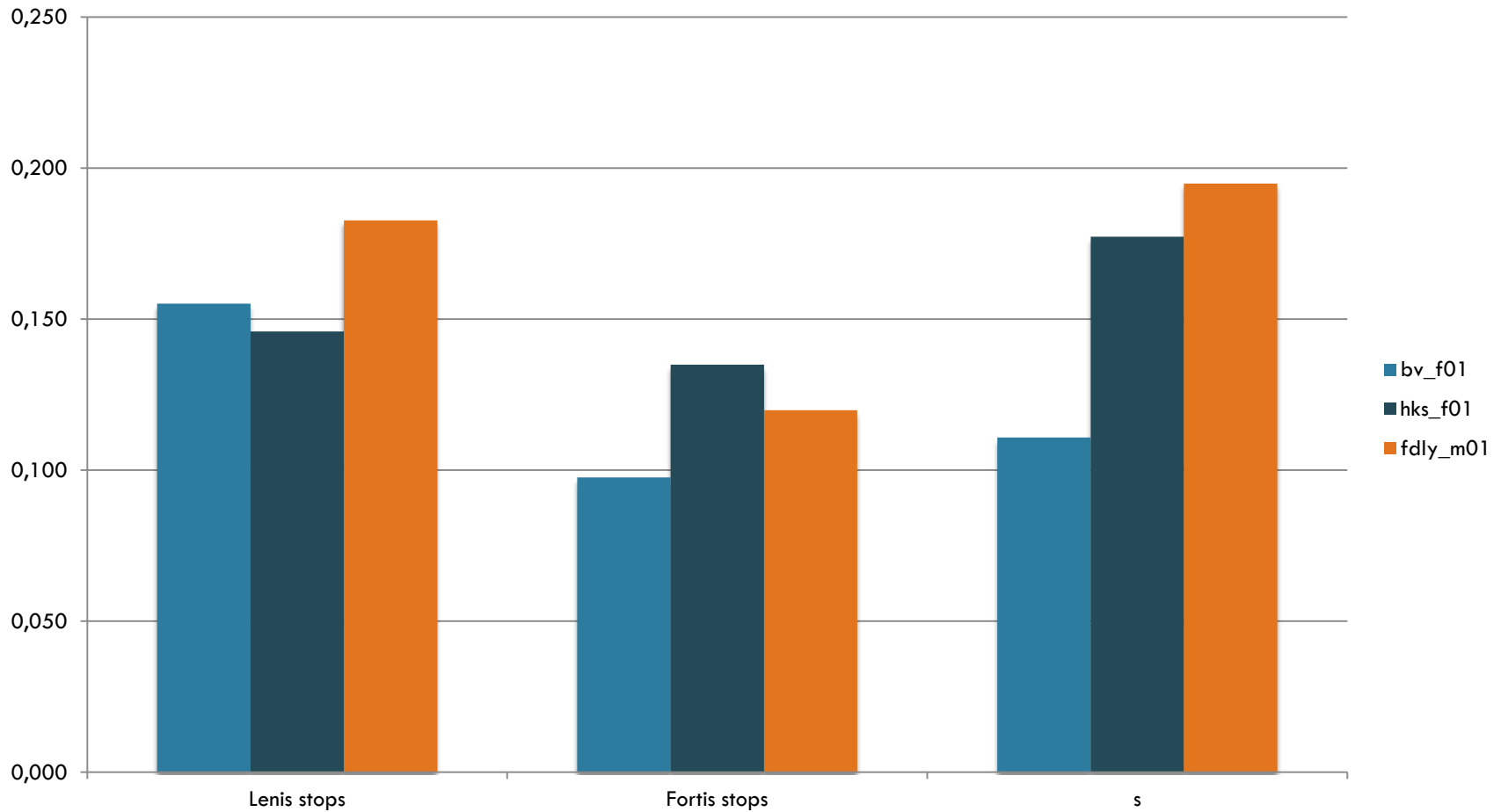


- Based on Chen's findings, we conclude that one difference between English and Norwegian is that Norwegian appears to rely less on relative vowel and consonant duration in making laryngeal distinctions.
- Our American Norwegian speakers show a Norwegian pattern in their English.
- How else are they making laryngeal distinctions?

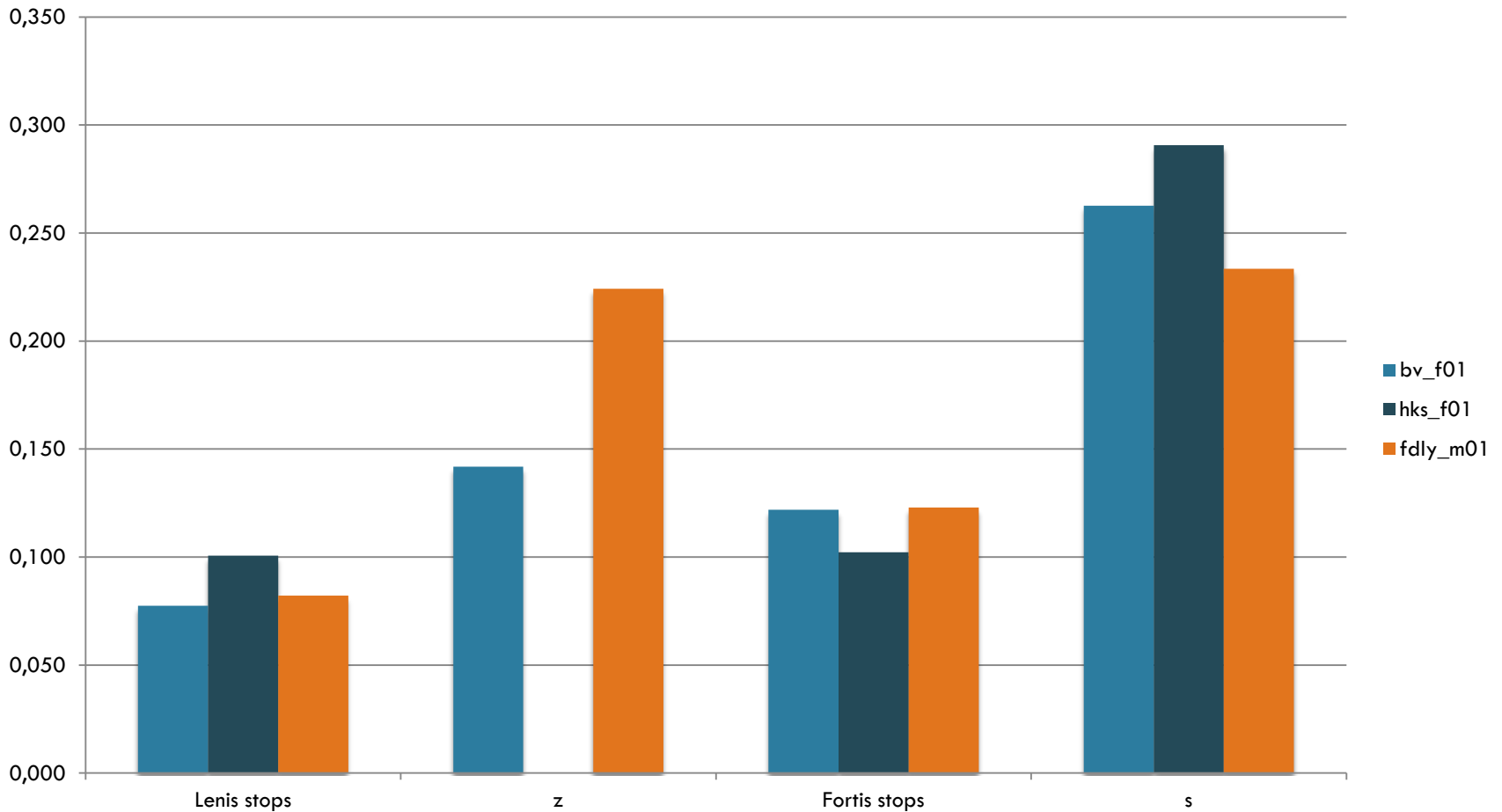
English finals: vowel duration



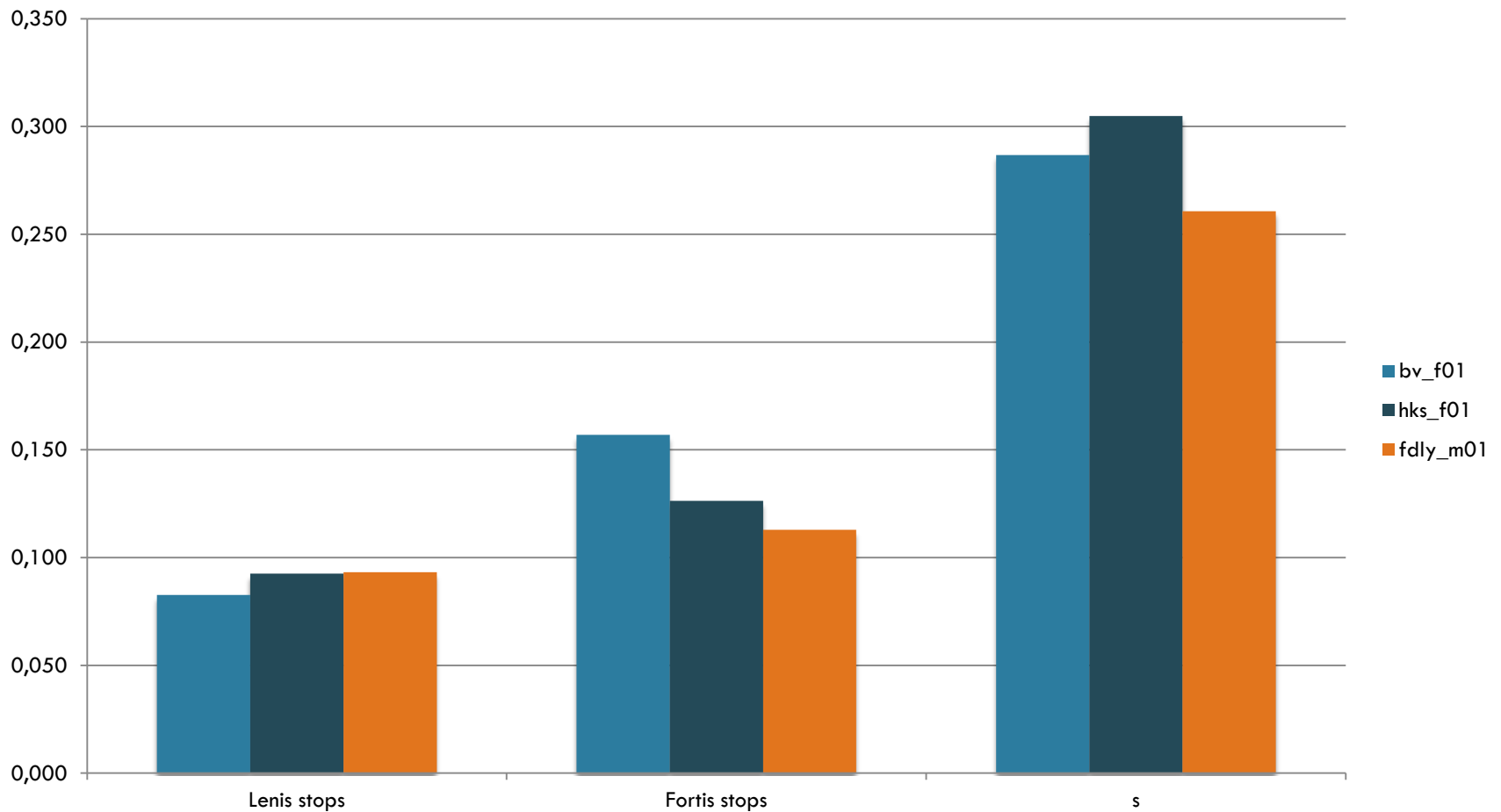
Norwegian finals: vowel duration



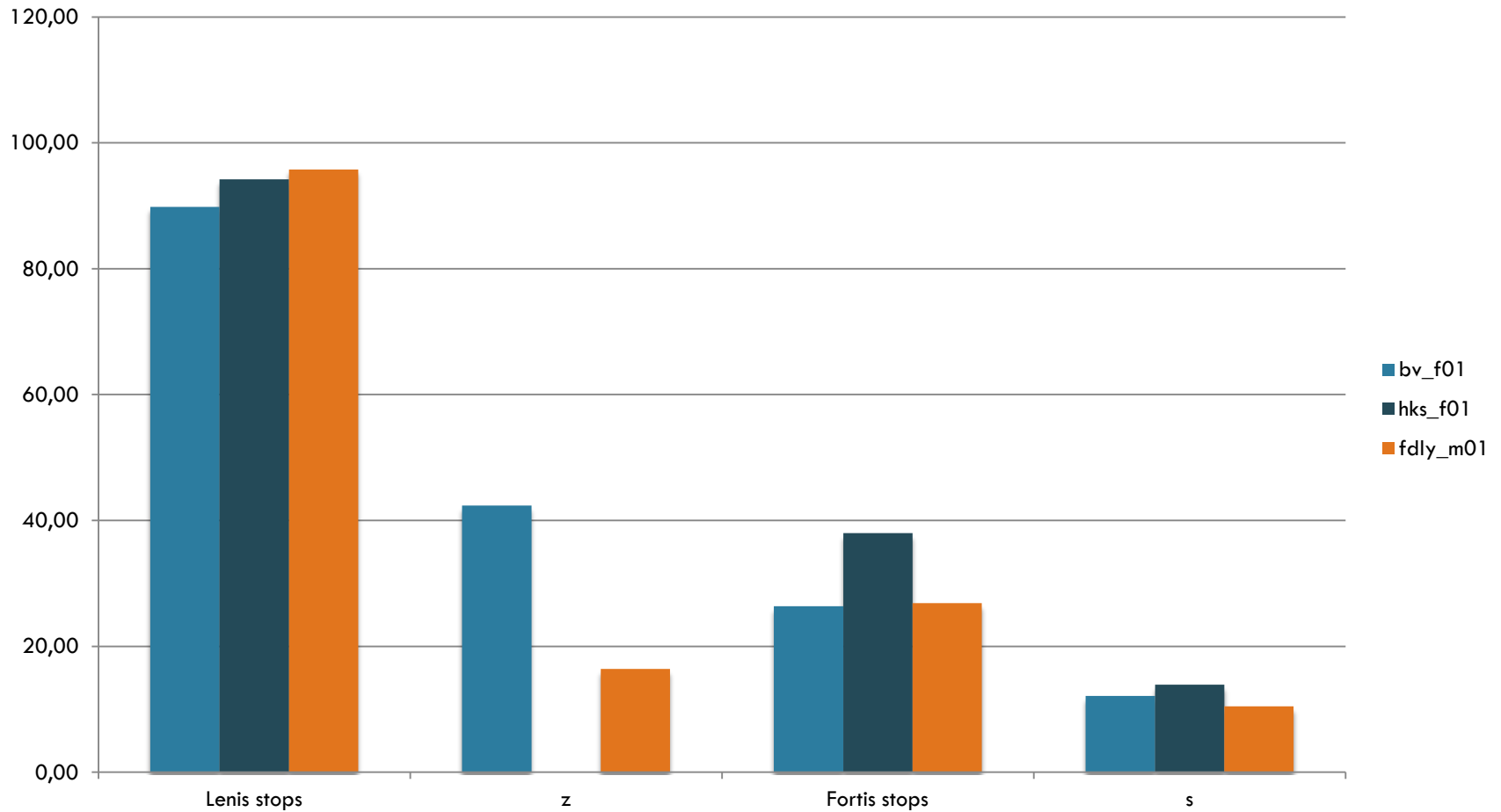
English finals: consonant duration



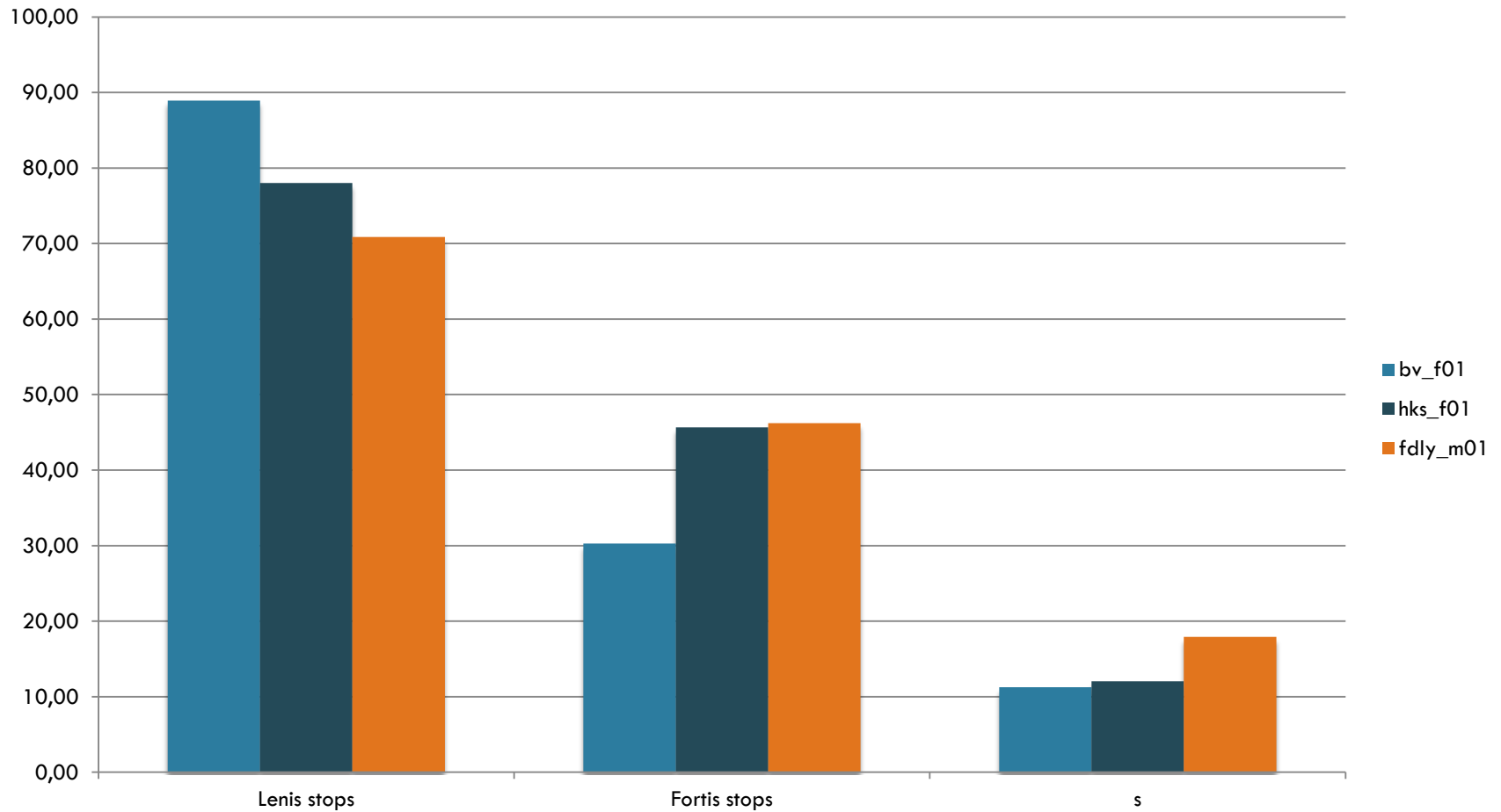
Norwegian finals: consonant duration



English finals: %GP



Norwegian finals: %GP



Bottom line

- For the American Norwegian speakers, their English looks like Norwegian in terms of vowel-to-consonant ratio and the amount of voicing in lenis final consonants

7. Conclusions I

- To a greater extent than we initially realized, basic **description** is needed for American Norwegian, but even for the hearth varieties.
- In particular, previous descriptions lead us to expect **sonorant devoicing** with /s/ as a difference between Norwegian and English. In fact, both languages are alike in this regard.
- This reconciles the analysis of Norwegian with ‘laryngeal realism’.

Conclusions II

- Norwegian lacks /z/, and its absence in English is salient, including in immigrant English. Our speakers produce both English and Norwegian in **phonetically and phonologically unremarkable** ways.
- Both English and Norwegian make **final laryngeal distinctions**, though in quite different ways. English uses vowel length as a key cue, while Norwegian uses glottal pulsing. Here, our data strongly suggest Norwegian influence on English.
- Change underway in regional English makes this important for future work.

Conclusions: Big picture

- **Illusion** of English influence on Norwegian in sonorant devoicing. Descriptions are slippery.
- Current bilinguals have mastered some difficult patterns, /s, z/.
- They show low-level effects of Norwegian on English, -Vd ~ Vt.

Thank you.

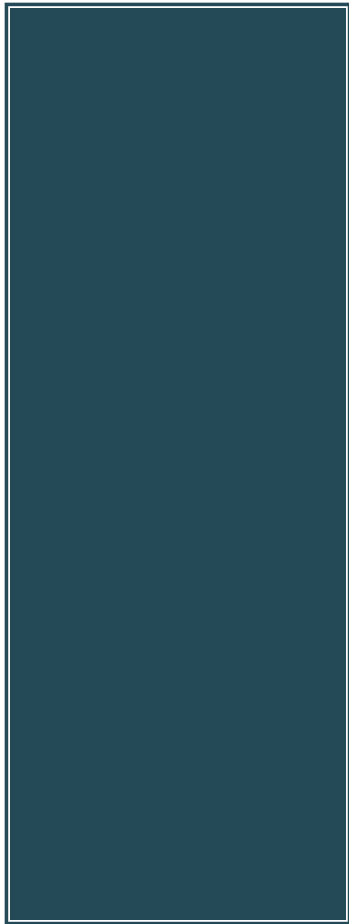


Table 1. Closure durations of fortis and lenis stops. Short= following /V:/, long= following /V/. Means and standard deviations in ms

		mean	sd	n
fortis	short	123	35	119
	long	202	65	62
	pooled	150	61	181
lenis	short	69	21	83
	long	153	51	125
	pooled	120	58	208

*Table 2. Amount of voicing in % in lenis stops.
Short= following /V:/, long= following /V/*

	gender	mean	sd	n
short	male	100.0	0.0	36
	female	97.0	11.1	47
	pooled	98.3	8.4	83
long	male	95.4	10.9	56
	female	85.7	22.2	69
	pooled	90.1	18.6	125
	overall	93.3	15.9	207

Rothman (2009:159, also Sewell 2011)

A language qualifies as a heritage language if it is a language spoken at home or otherwise readily available to young children, and crucially this language is not a dominant language of the larger (national) society. Like the acquisition of a primary language in monolingual situations and the acquisition of two or more languages in situation of society bilingualism/multilingualism, the heritage language is acquired on the basis of an interaction with naturalistic input and whatever in-born linguistic mechanisms are at play in any instance of child language acquisition.

continued ...

- Differently, however, there is the possibility that quantitative and qualitative differences in heritage language input and the introduction, influence of the societal majority language, and difference in literacy and formal education can result in what on the surface seems to be arrested development of the heritage language or attrition in adult bilingual knowledge.