

Velar Fronting in Alsea

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Questions about Alsea

- What are the regularities of distribution for fronted velars?
- Are the exceptions:
 - Systematic?
 - Lexical?
- What is the place of fronting in the phonology?

Fronting in Hanis Coos

“...a strong tendency, inherent in the language, to assimilate, whenever possible, the consonants of the *k*-series to the character of the preceding or following vowels. As a consequence of this tendency, *i*-vowels are invariably followed or preceded by the anterior palatals...”

Frachtenberg (1922)

“When *k*, *k'*, *g* appear before *e*, *i*, *ə*, they have a short *y*-sound after them, thus: the word for “bowl”, *kədámin*, sounds like *kyədámin*.”

Grant (1994)

Fronting in Bella Coola

/p ^k m/	[p ^h k̟əm]	‘mosquito’
/k ^l kl/	[k̟il̟k̟il]	‘herring’
/t ^{k^w} m/	[t ^h k̟ ^w ǔm]	‘to dig clover roots’
/lu-lx/	[lo:l̟x̟] ~ [l̟wəl̟x̟]	‘bark is getting loose’

Nater (1979)

Alsea velars

- The large majority of velar stops in Alsea are transcribed as **fronted** in the original sources.
- Some plain velars are written in situations of **possible contrast** with fronted velars.
- Is there an **actual contrast**?

Sample transcriptions

	‘two’	‘head’	‘brother’
Dorsey 1884	qǎç'–kǐ	çlú–k'ǐ	mú–tšik
Sapir 1906	xîlkʷ	ɬōkʷ!ɪ	—
Frachtenberg 1910, 1913	xɛλk·	λōk·	mū'tsik·
Jacobs 1935	xéɬk̥	ɬú·k̥'	mú·tšik
Harrington 1941	xéɬkʷ'	ɬó·kʷ'ɪ	mó·tsikʷ'

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Jacobs (1935)

Includes both points of articulation in his set of “primary phonemes”.

“The primary phonemes are the three simple vowels symbolized as *a*, *i*, *u*; two diphthongs *ai*, *au*; a series of intermediate consonants composed of seven stops (*B*, *D*, *Ḡ*, *G*, *GW*, *Ḡ*, *ḠW*) and one affricative (*DJ*); a series of glottalized consonants of the seven stops (*p'*, *t'*, *k'*, *k'*, *k'w*, *q'*, *q'w*) and two affricatives (*t'c*, *t'ɸ*); surd continuants *c*, *ḡ*, *x*, *xw*, *ḡ*, *ḡw*, *h*, *hw*, *m*, *n*, *l*, *ɸ*; and the glottal stop.”

Jacobs (1954)

Later he seems to identify the fronted sounds as secondary realizations:

“[a]coustically, rather than phonemically, anterior palatals...”

However, he also says:

“Whether any anterior palatals so far recorded are phonemes rather than allophones of something else remains to be determined.”

Digitized data sources

- Frachtenberg (1910, 1913)
 - elicitation notes
 - 4860 velar stop tokens
- Frachtenberg (1917, 1920)
 - published texts
 - 11,015 velar stop tokens
- Jacobs (1935)
 - elicitation notes
 - 5348 velar stop tokens

Following context: K_

	Frachtenberg Notes		Frachtenberg Texts		Jacobs Notes		Pooled	
	k(!)	k · (!)	k(!)	k · (!)	k(')	ḵ(')	plain	front
i, e, y	31	1937	23	3779	412	1857	466	7573
u, o, w	1305	59	2378	109	885	93	4568	261
a	81	324	38	928	80	639	199	1891
ə	5	67	38	841	34	133	77	1041
C	115	463	27	1367	323	417	465	2247
#	18	455	30	1454	21	441	69	2350

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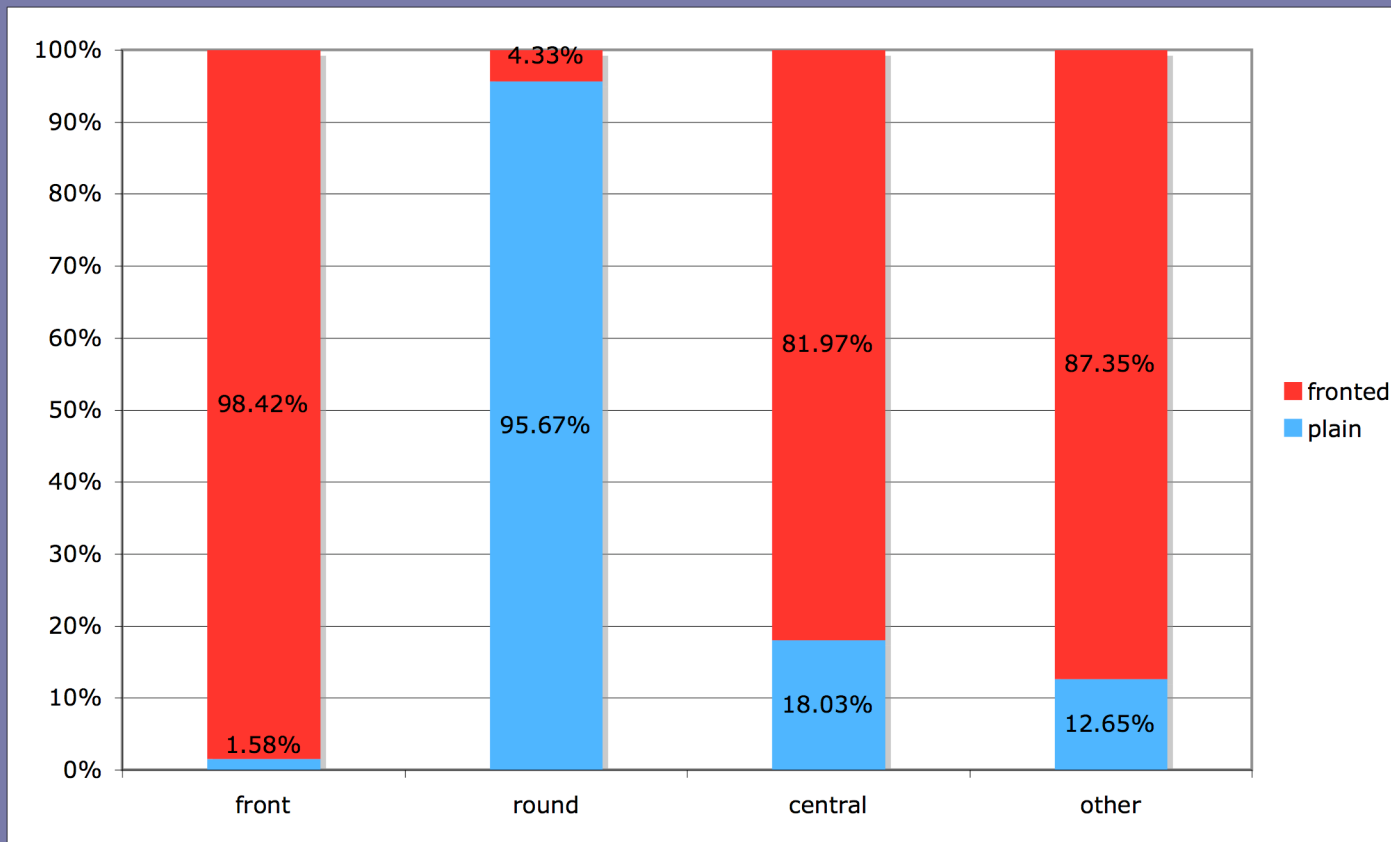
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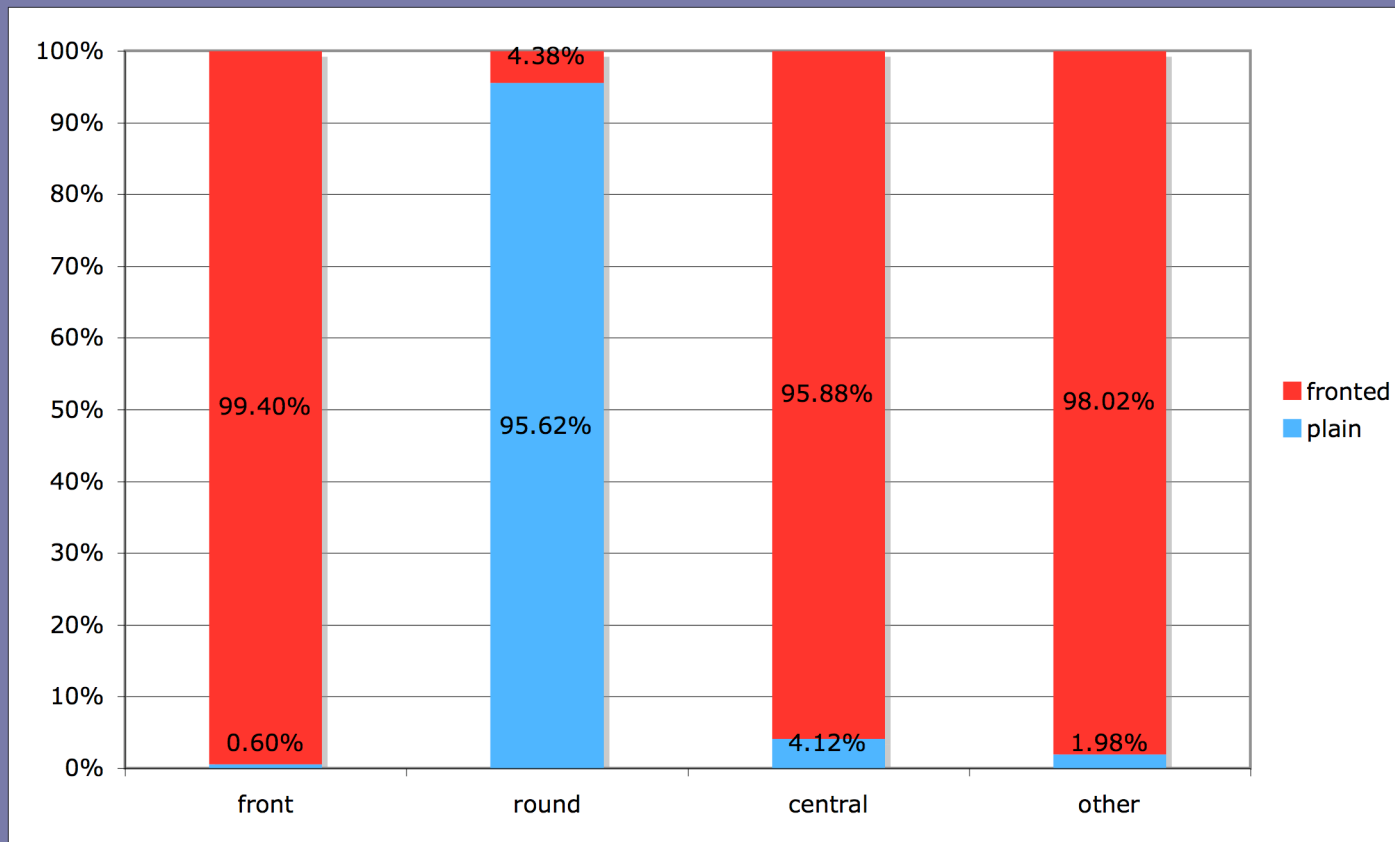
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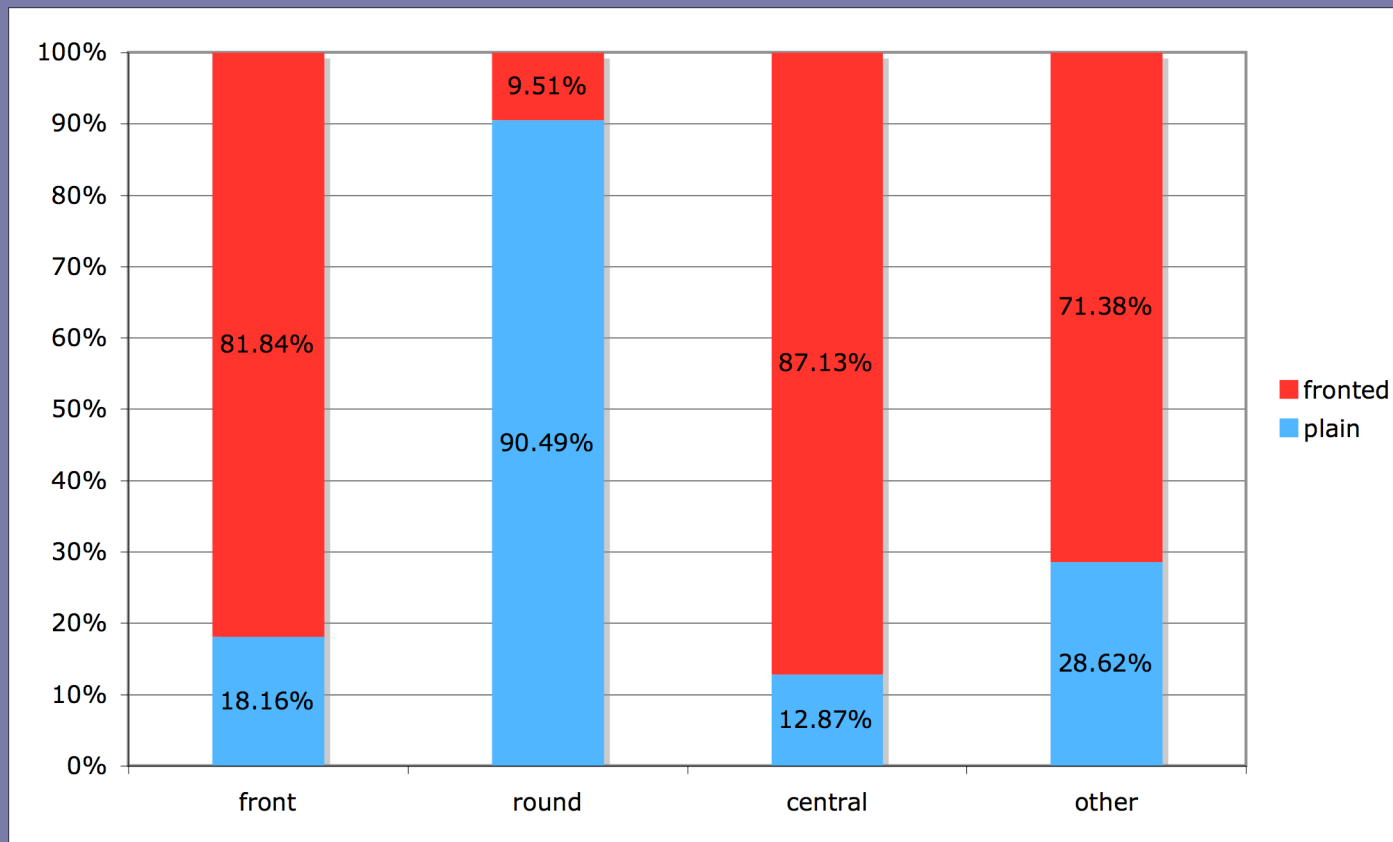
Frachtenberg notes: K_



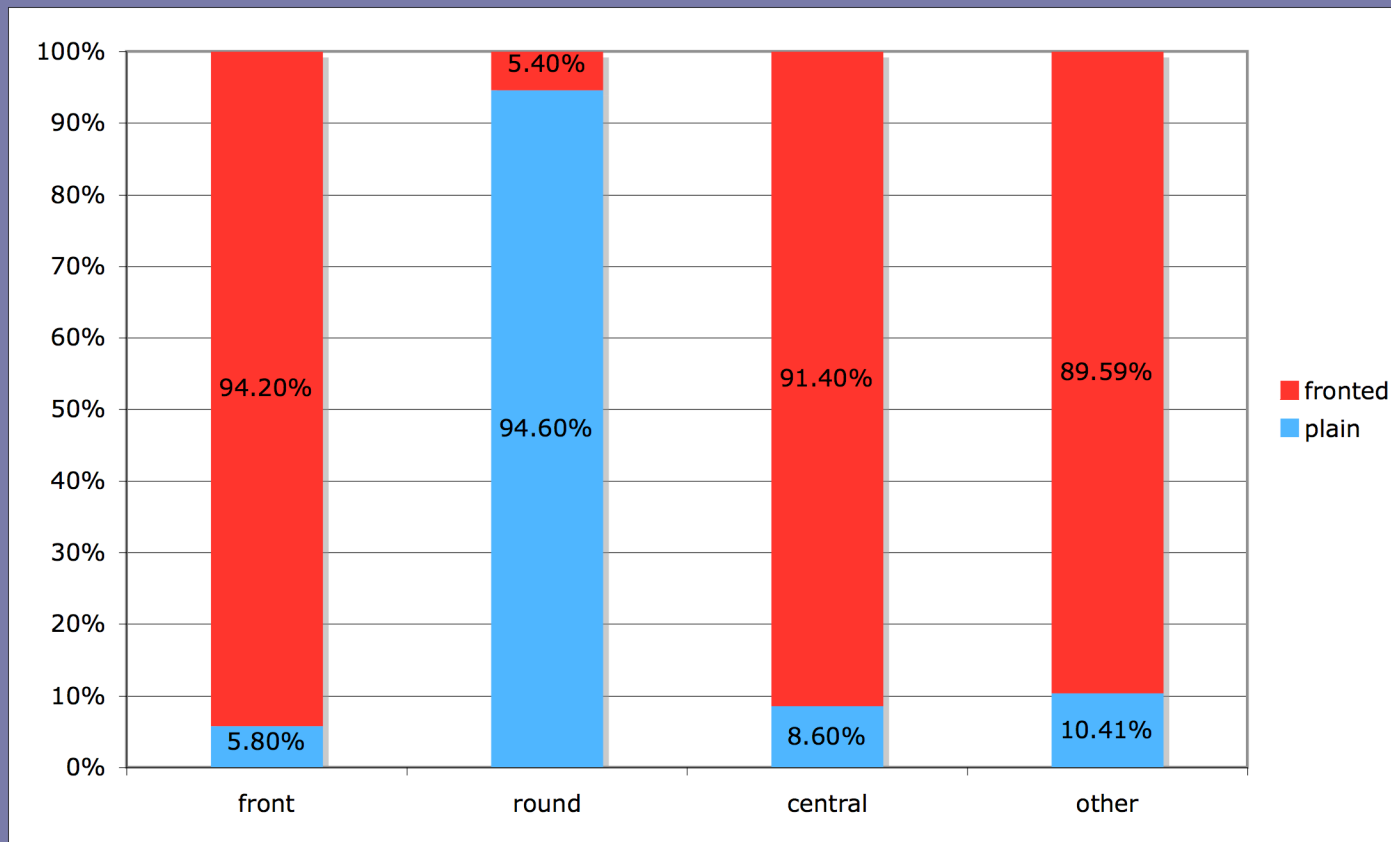
Frachtenberg texts: K_



Jacobs notes: K_



Pooled data: K_



Preceding context: _K

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a	124	252	110	688	118	238	352	1178
ə	26	43	17	104	63	64	106	211
C	606	726	706	1993	626	693	1938	3412
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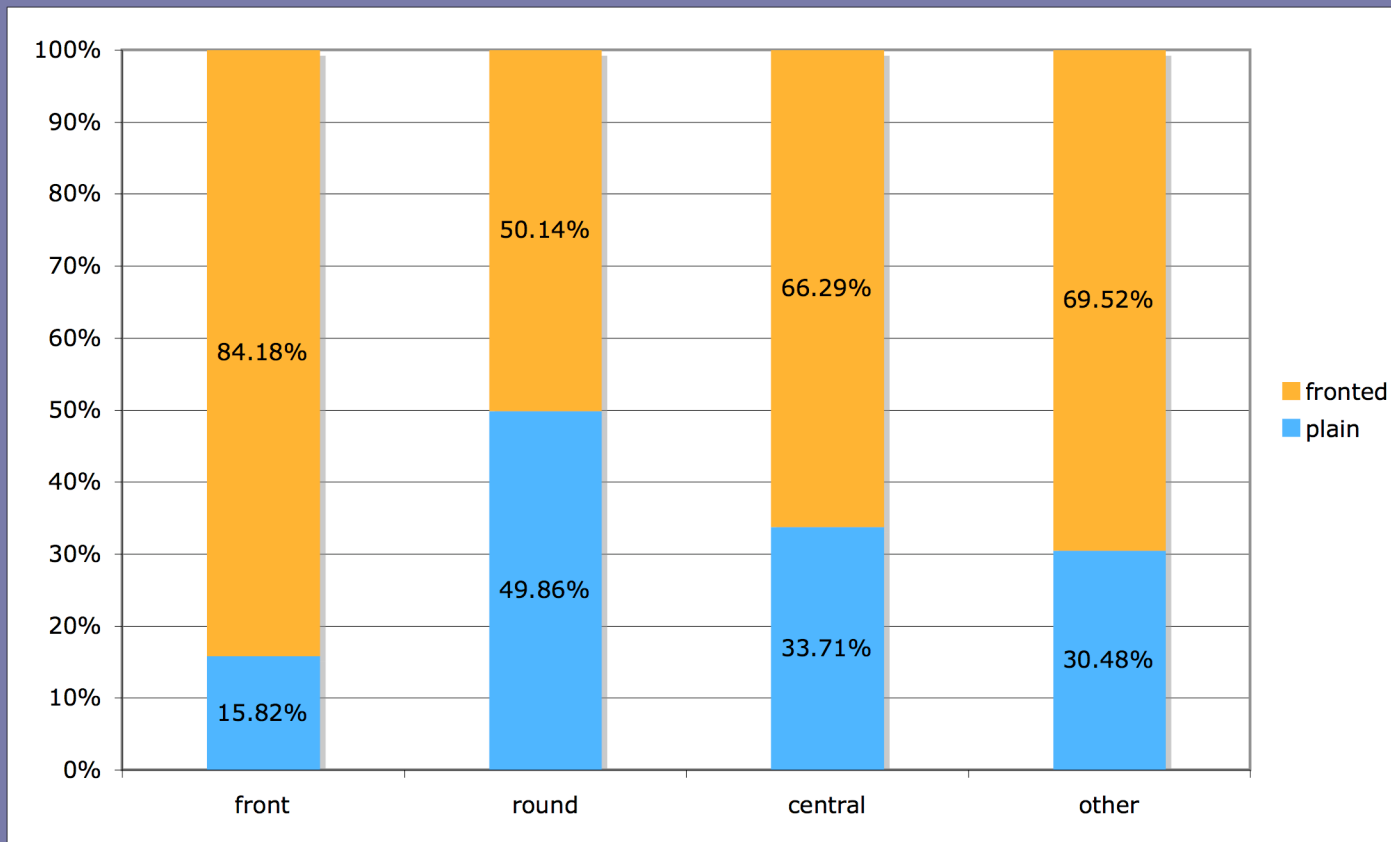
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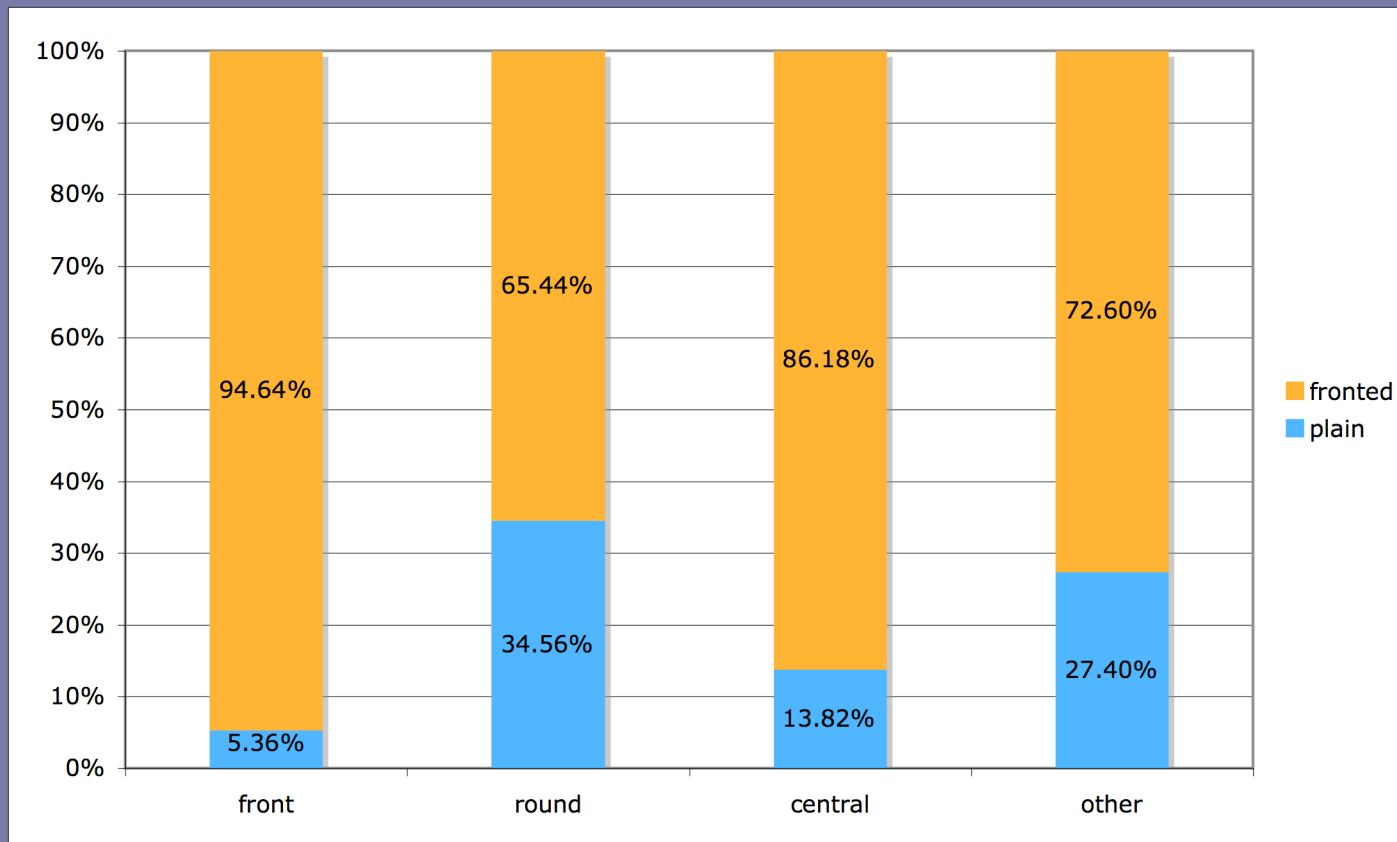
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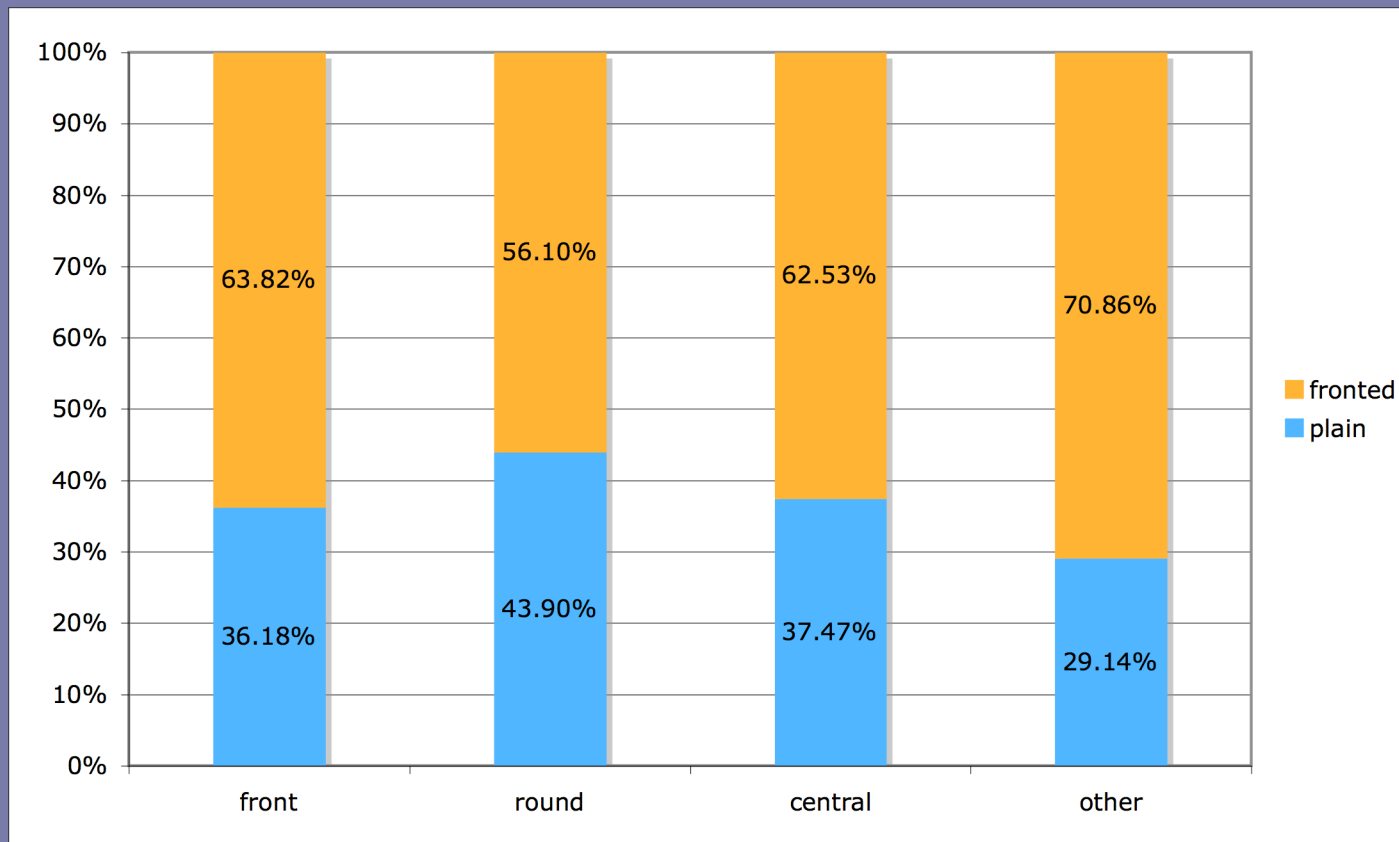
Frachtenberg notes: _K



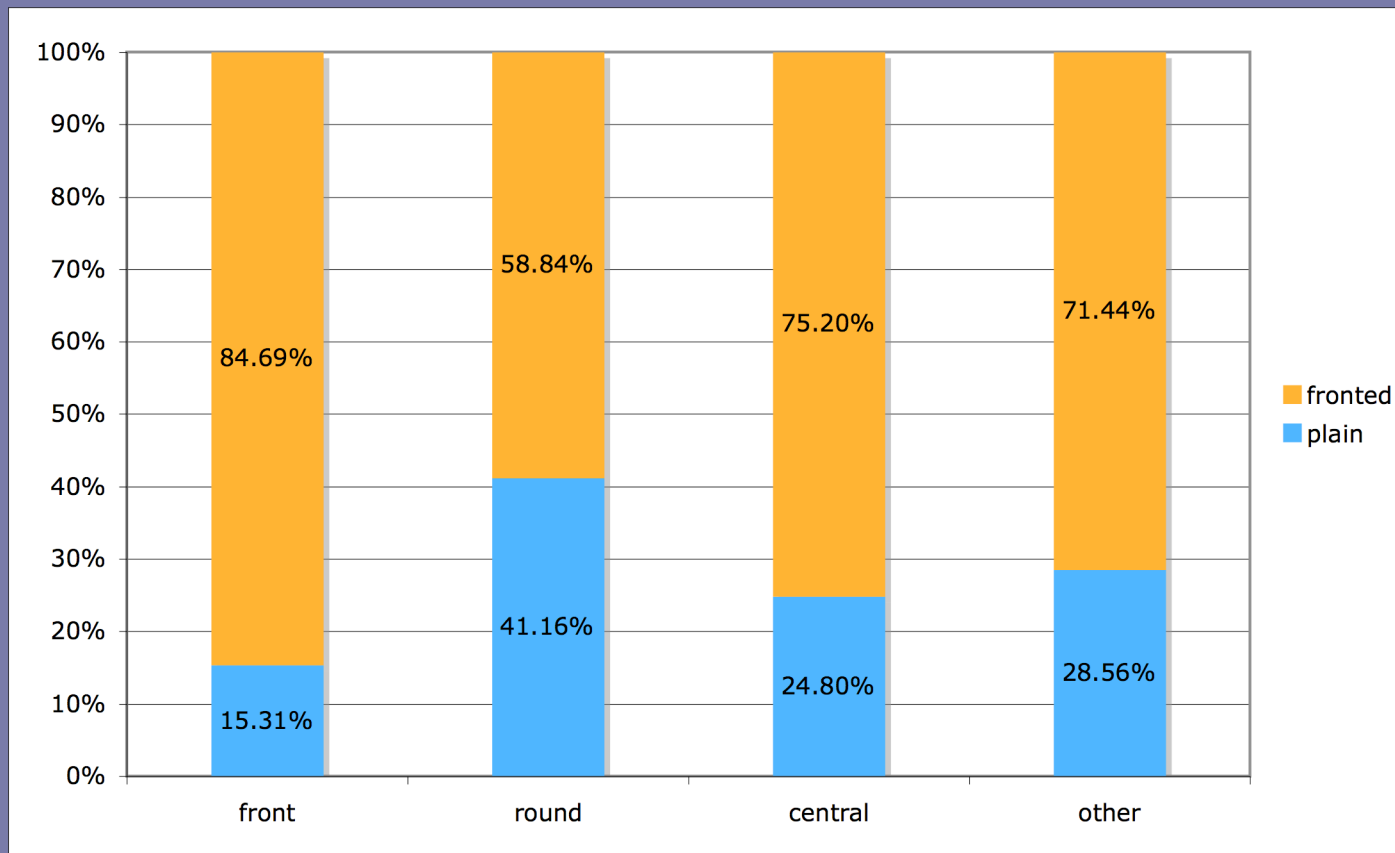
Frachtenberg texts: _K



Jacobs notes: _K



Pooled data: _K



Interim conclusions

- Fronting of /k/ is the default realization.
- Transcribed [ku] reflects the phoneme /k^w/, which does not undergo fronting.
- There's some noise in the data due to epenthetic vowels, variable transcriptions, etc.

Transcribed [ku]

Not an exception.

Rounded velar

/k^waɪ, k^wɪ/ ‘reach, arrive’:
shows transcription [ku] from /k^w/

kwa'l-a	‘reached’
Gwa'ā'l-atx̣	‘is coming ashore’
kuɪ-aī'	‘would (not) reach’
Gwəl-a'im	‘(will) come ashore’

Velar + /u/

/musk, msk+u/ ‘suck out poison’:
shows /ku/ across morpheme boundary

mu's_ḱ-itxanx

‘is sucking it’

ɬə-mu's_ḱ-idi

‘(can't) suck it out’

ɬə'-mš_{iḱ}-ɛlt

‘(stopped) sucking on him’

mi_{sḱ}-u'inx

‘sucked it out’

Velar + /u/

/c̣kyut̚, c̣kuyt̚, c̣kyt̚/ ‘escape’:

shows /ku/ resulting from CV metathesis

tṣ̌ḳiyu't̚-əʃɛl ‘it escaped’

tṣ̌ḳu'it̚-iyu ‘an escape’

tṣ̌ḳit̚-u'wim ‘(will) escape’

Transcribed [ki]

Variation and context.

Frachtenberg vs. Jacobs

k·īyūⁿ'sa

hak·īⁿ'k·ī

tsk·ila'mxat

sins k·ī'k·s

i^hk·-nī'x

gi'uⁿša

hagiⁿ'(') gi

tšgila'mxat

šə'nš k^hikš

'ik-nī'x

i^hk-nī'x

'tobacco'

'from here'

'camas'

'my eye(s)'

'for you'

Jacobs often seems to omit mark of fronting adjacent to front vowel, and before consonant.

Variation by Jacobs

nī'ṣ̌ḳ

'far away'

ɬə-ni'ṣ̌G-iyuṣ̌xam

'(will) go a long way'

na'(')ṭḳ

'river'

na'ā'ṭG-au

'creek'

nā'ṭG-ikṣ̌

'to the river'

G̣iya'i

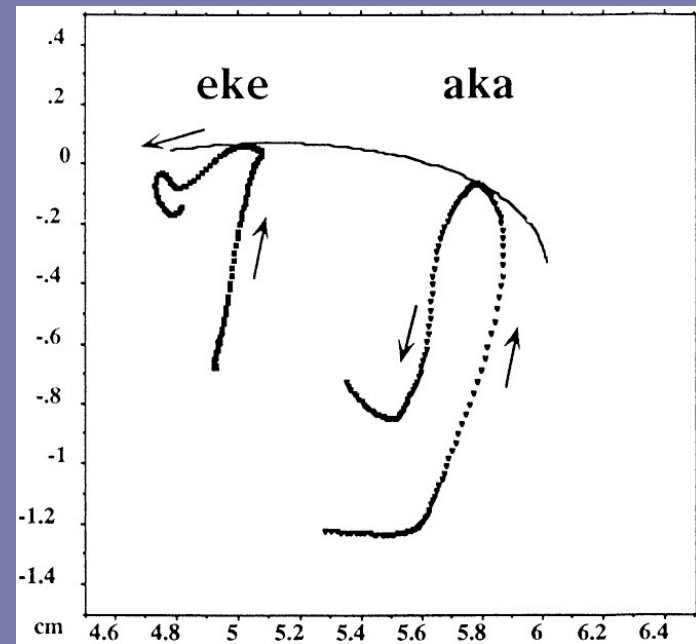
'knife'

tṣ̌-G̣i'a'i-ḳ

'his knife'

Coarticulation

- Where did the transcribers draw the line between “plain” and “fronted”?
- Did they correct (unconsciously) for coarticulatory effects?



Ewe articulations from
Ladefoged and Maddieson (1994)

Not just coarticulation

Most realizations consistent across contexts; cf. irrealis proclitic /k/

+ /p/	k·əp, ɟip	‘you pl. will’
+ /awx/	k·aux, ɟaux	‘they du. will’
+ /uk ^w /	k·uk ^u , ɟuk ^w	‘will up’
+ /qawa?/	ɟqawa’	‘all will’

Transcribed [ka]

Sometimes /qa/,
but not always.

Livingston Farrand

- Collected texts in 1900.
- Frachtenberg adapted and published 5 texts.
- Included in the Texts data.
- “Farrand never heard the velar *q*, but wrote all words that contain a velar, with a *k*.”
- For some words, Frachtenberg could apparently not verify the transcriptions and left <k> intact.

Farrand vs. Jacobs

mə-tsiyak-**au**xa
Djiyā'**g**-au

'became hoarse'
'is losing his voice'

pk-aī'nx
pə**g**-a'inx

'touched it'
'touched it'

tska'tina
tc**g**a'Dən

'crane'
'crane'

Cf. similar changes for Frachtenberg from his notes to the published texts.

The case of ‘bird’

- Consistently written unfronted, although not frequently attested
 - F. **ka**kā'ya?
 - J. **ka**'**ka**ā'ya' (cf. Klikitat ka'kya)
- Related to Sahaptin ‘bird, animal’?
 - e.g., an exceptional borrowing
- Something about the sounds in this word?
 - repeated /ka/, following /y/

The case of ‘burn’

- Verb ‘burn’ consistently unfronted
 - F. tkəɫtʰ
 - J. tɕəɫtʰc, tɕaʰlīʰtʰc
- Possibly related ‘fire’ typically fronted
 - F. ɭk·ilʰ, ɭk·ilīʰ
 - J. ɬɕiʰlʰtʰ, ɬɕilīʰtʰ
- Role for following front vowel in ‘fire’?
 - morphological relationship not transparent
 - perhaps ‘burn’ has special history?

The case of 'monster'

- Also consistently unfronted
 - F. akīⁿ,
 - J. aciⁿ,
- Mythological creature
 - perhaps a borrowing

Exceptionality

- If these words are true exceptions...
- Then the fronting rule is somewhat “deep” in the phonology
 - though not as deep as Trisyllabic Shortening
- Again, clearly not just phonetic coarticulation
- A (largely) allophonic rule of velar realization
 - but not exceptionless like English flapping

Diminutives

- Uvulars raise to velars in the presence of the diminutive suffix.

qwi''	Gwī'y-au	'canoe'
ša'qal	ša'ā'kəl-au	'fish tail'
ʈk̡aG̡a'uχamt	ʈk̡aGa'uχamD-au	'dove'
tšqε' ⁿ χ	tšGi'i' ⁿ χ-au	'dog'

- In the 20-odd examples, no velar that results from raising is transcribed with fronting.
- /k/ in same phonological category as in apparent exceptional words such as 'bird' ?

[ɛ] in Jacobs

- Frequent realization of /a/ adjacent to fronted consonants [l, ɬ, y, k]

ɔ̃ɛⁿ'k 'woodpecker'

hi'k̃ɛ, hi'k̃a 'just'

ɬiyɛ' 'not'

məɬɛ'nɣ 'know it'

u.^(')lu.'š̃ɛl 'drowned'

- Does this require a shared phonological feature to trigger the rule?
 - or may in fact be more gradient assimilation
 - not always transcribed as such by Jacobs

Generalizations

- Non–rounded velars are normally fronted.
- This is the default realization, not strictly dependent on adjacent vowels.
- There may be a few lexical exceptions.
 - related to borrowing?
- Suggests more abstract level of representation.
 - The diminutive (and [ɛ] perhaps) support this.
- A relatively early rule that feeds other processes.
 - Precedes metathesis and suffixation
 - Counterfered by diminutive raising

Answers to questions

- What are the regularities of distribution for fronted velars?
 - Nearly all tokens of unrounded /k/
- Systematic exceptions:
 - Non-transcription next to front vowels
 - Non-application in diminutives
- Lexical exceptions
 - Possible small set of words, e.g. ‘bird’ and ‘burn’
- What is the place of fronting in the phonology?
 - A somewhat early (lexical) rule
 - Subject to exceptions and counterfeeding