

Phonology

t^hap najn wejz ðə wərlɔd wud bi: dɪfrənt ɪf ɛvrɪwʌn wəz neɪmd "mɜrv"

9. wʌn əv əmɛrɪk^həz bɛst-lʌvd muwvɪz: "mɜrv k^hæsɪdɪj ænd ðə sʌndæns k^hɪd"

8. neɪmt^hægz wud k^hʌm p^hrɪjp^hrɪntəd, "hɛləw, məɪ neɪm ɪz mɜrv"

7. gʊd bɛt ðə vænɪrɪj p^hleɪt "mɜrv wʌn" ɪz ɔlredɪj t^hɛjkən

6. p^hʌpjələz p^hɪk^hʌp laɪn: "jər ə sɛksɪj wʊmən, mɜrv"

5. dərɪŋ mɪdlɑɪf k^hrɑɪsəs, lɑts əv gɑɪz wud stɑrt gowɪŋ bɑɪ "mɜrvɪj"

4. ðə bʊk əv dʒɛnəsɪs wud t^hɪɪtʃ əs ðæt gɑd k^hrɪjeɪrəd mɜrv ɪn hɪz
own ɪmədʒ

3. hɪt nuw fɑks rɪjælɪrɪj ʃow: "mɜrv mɪljəneɪr"

2. mɜrv grɪfɪnz nɪkneɪm wud bi: "grɪf"

1. juwəs mɪlɪt^həri gɪrɪz ʌp t^hə t^hʌp^həl mɜrdərəs dɪkt^hɛɪrər mɜrv
huwseɪn

Polish plurals again

		<u>UR</u>	
wuk 'bow'	wuki 'bows'	wuk <u>̣</u>	
wuk 'lye'	wugi 'lyes'	wug	Final g becomes k
trup 'corpse'	trupi 'corpses'	trup <u>̣</u>	
klup 'club'	klubi 'clubs'	klub <u>̣</u>	Final b becomes p
kot 'cat'	koti 'cats'	kot <u>̣</u>	
trut 'labor'	trudi 'labors'	trud <u>̣</u>	Final d becomes t
nos 'nose'	nosi 'noses'	nos <u>̣</u>	
grus 'rubble'	gruzi 'rubbles'	gruz <u>̣</u>	Final z becomes s

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final consonants become voiceless

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C --> [-voice] / __ #

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nos 'nose'	nosi 'noses'	nos <u>̲</u>	
grus 'rubble'	gruzi 'rubbles'	gruz <u>̲</u>	Final z becomes s
dom 'house'	domi 'houses'	dom <u>̲</u>	Final m just sits there

final consonants become voiceless?

C --> [-voice] / ___ #

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grus 'rubble'	gruzi 'rubbles'	gruz <u>̲</u>	Final z becomes s
dom 'house'	domi 'houses'	dom <u>̲</u>	Final m just sits there

final **obstruents** become voiceless

[-sonorant] --> [-voice] / ___ #

Polish plurals again

Polish:

Final **g** becomes **k**

Final **b** becomes **p**

Final **d** becomes **t**

Final **z** becomes **s**

[-sonorant] --> [-voice] / ___ #

Polish plurals again

Polish:

Final **g** becomes **k**

Final **b** becomes **p**

Final **d** becomes **t**

Final **z** becomes **s**

[-sonorant] --> [-voice] / ___ #

"Qolish":

Final **g** becomes **p**

Final **b** becomes **s**

Final **d** becomes **k**

Final **z** becomes **t**

????????????????????

Polish plurals again

Polish:

Final **g** becomes **k**

Final **b** becomes **p**

Final **d** becomes **t**

Final **z** becomes **s**

[-sonorant] --> [-voice] / ___ #

"Rolish":

Final **g** becomes **k**

Final **m** becomes **m̥**

Final **l** becomes **l̥**

Final **z** becomes **s**

???-->[-voice] / ___ #

Phonology allows us to...

- make predictions about the kinds of languages we'll find (Polish, but hopefully not Qolish or Rolish)

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- make predictions about the kinds of languages we'll find (Polish, but hopefully not Qolish or Rolish)
- make predictions about what kinds of words we'll find in a language (e.g., Polish can't have a word pronounced "**kid**")
- make predictions about how speakers will respond when asked about the behavior of new words (e.g., if we tell a Polish speaker "These are **kidi**," and ask her for the singular, she'll say "**Kit**")

What Features Are There?

p	b			w	m		
		f	v				
		θ	ð				
t	d	s	z		n	l	r
		ʃ	ʒ				
				j			
k	g				ŋ		
ʔ		h					

What Features Are There?

bilabial	p	b			w	m		
labiodental			f	v				
interdental			θ	ð				
alveolar	t	d	s	z		n	l	r
alveopalatal			ʃ	ʒ				
palatal					j			
velar	k	g				ŋ		
glottal	ʔ		h					

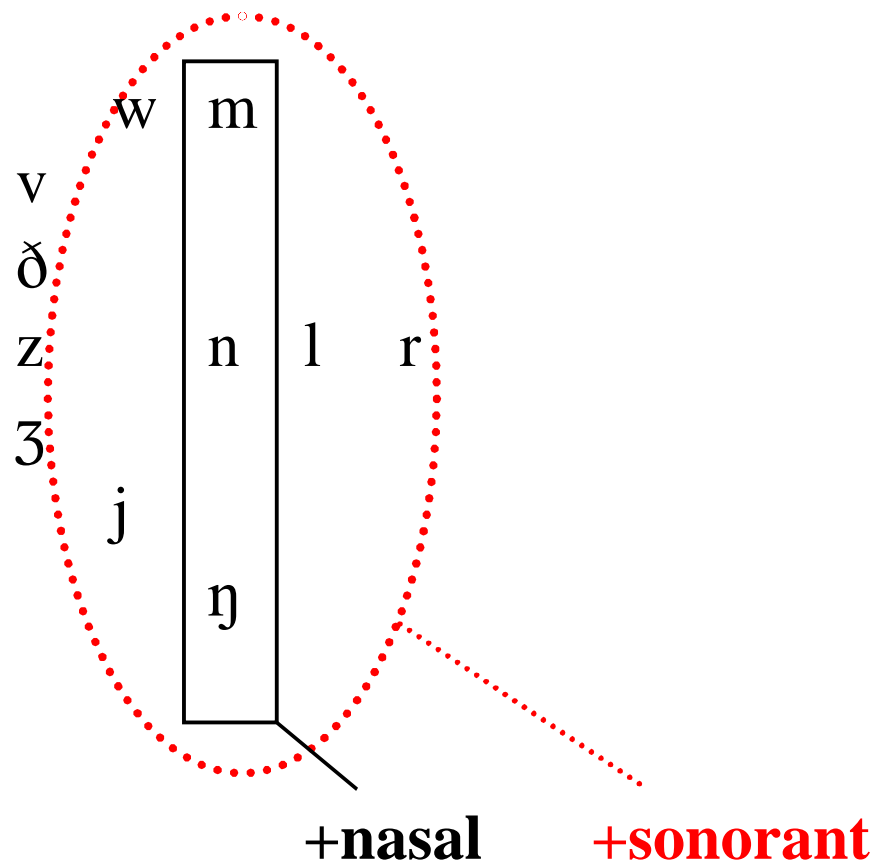
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labiodental			f	v				
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palatal					j			
velar	k	g				ŋ		
glottal	ʔ		h					

+nasal

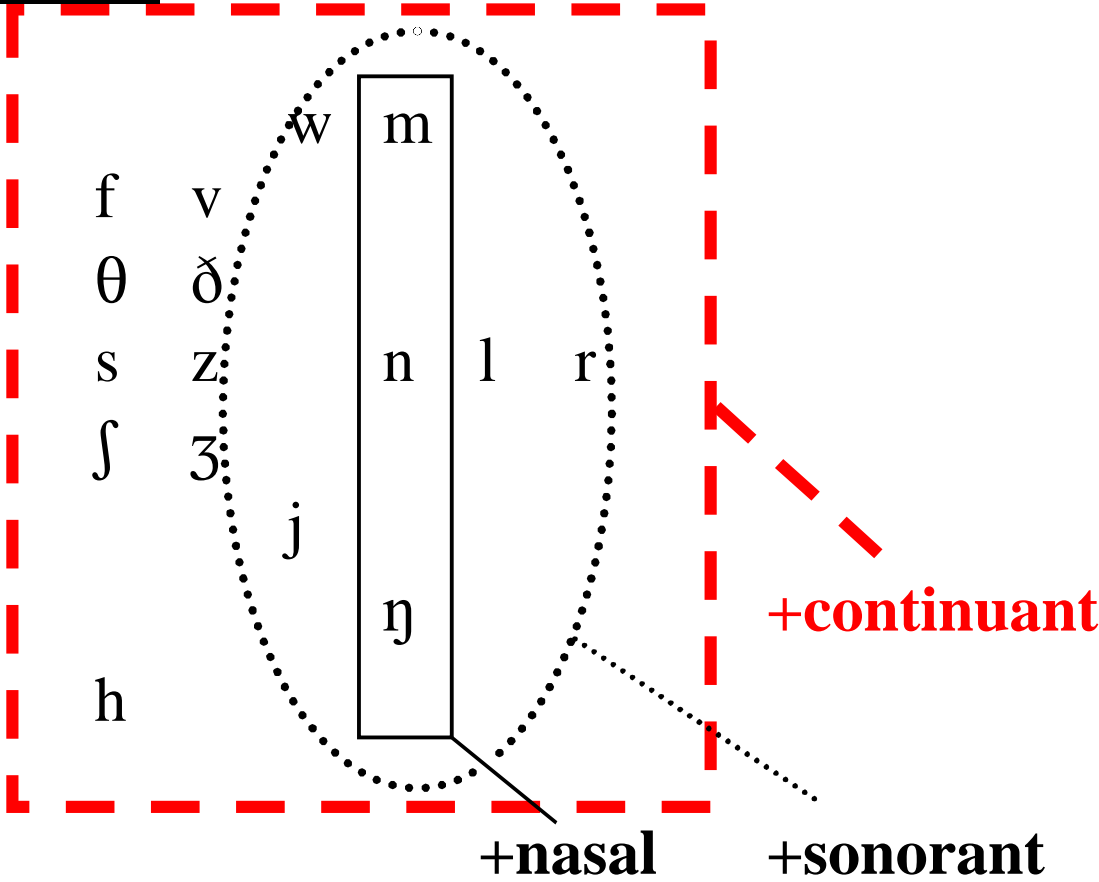
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alveopalatal			ʃ	ʒ
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What Features Are There?

bilabial p b
labiodental
interdental
alveolar t d
alveopalatal
palatal
velar k g
glottal ʔ



What Features Are There?

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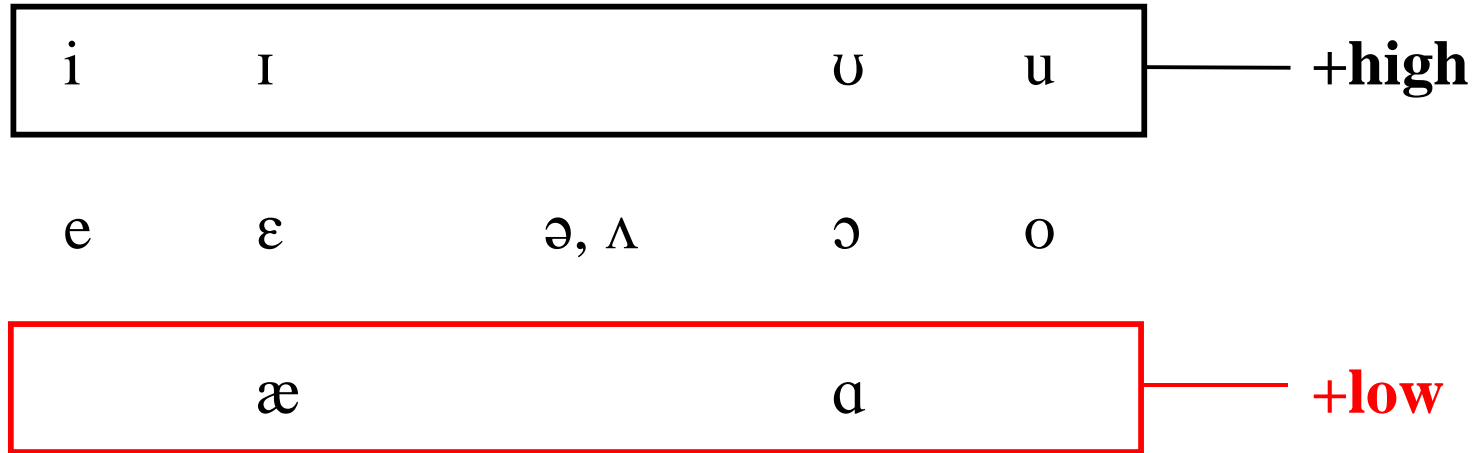
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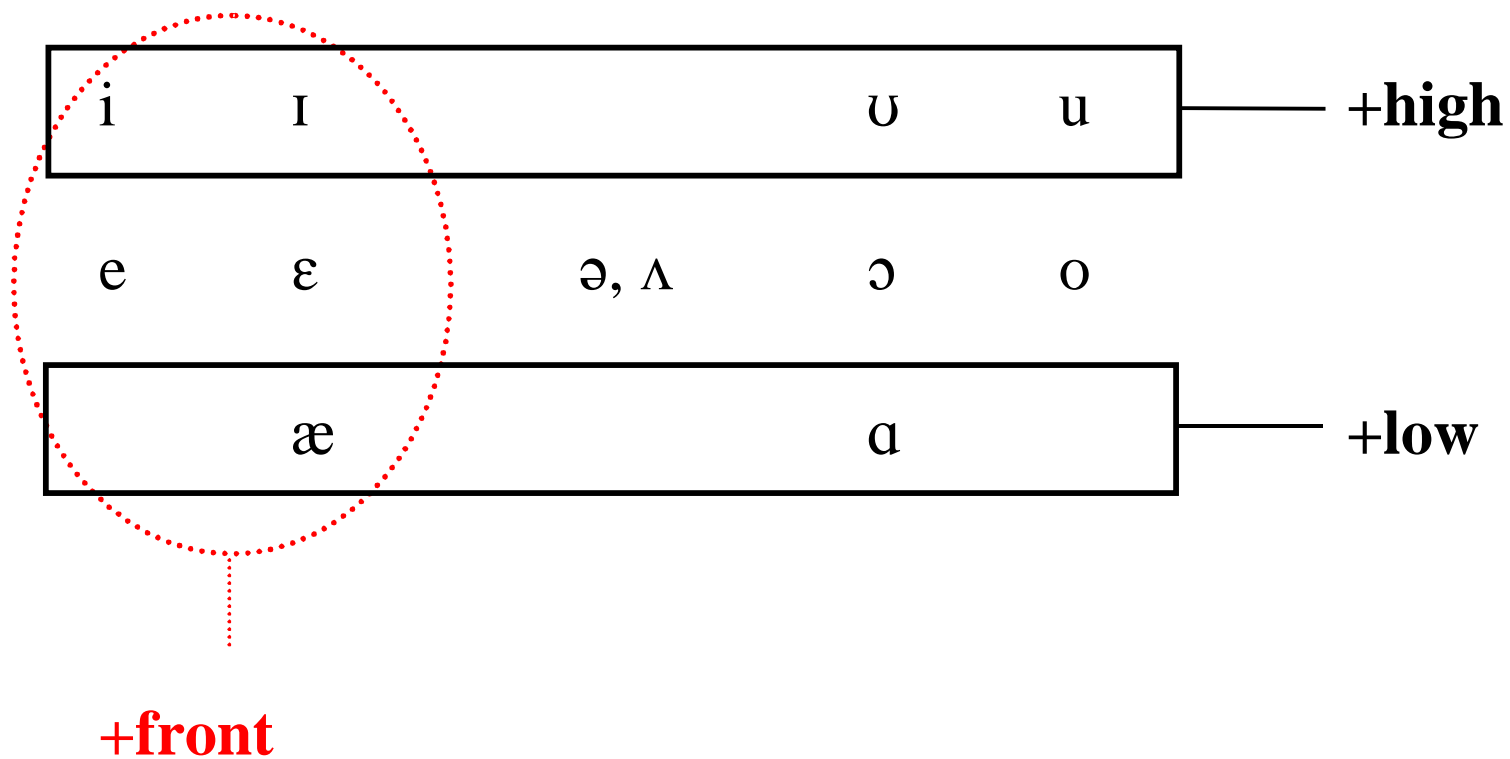
What Features Are There?

i	I		U	u	— +high
e	ɛ	ə, ʌ	ɔ	o	
	æ		ɑ		

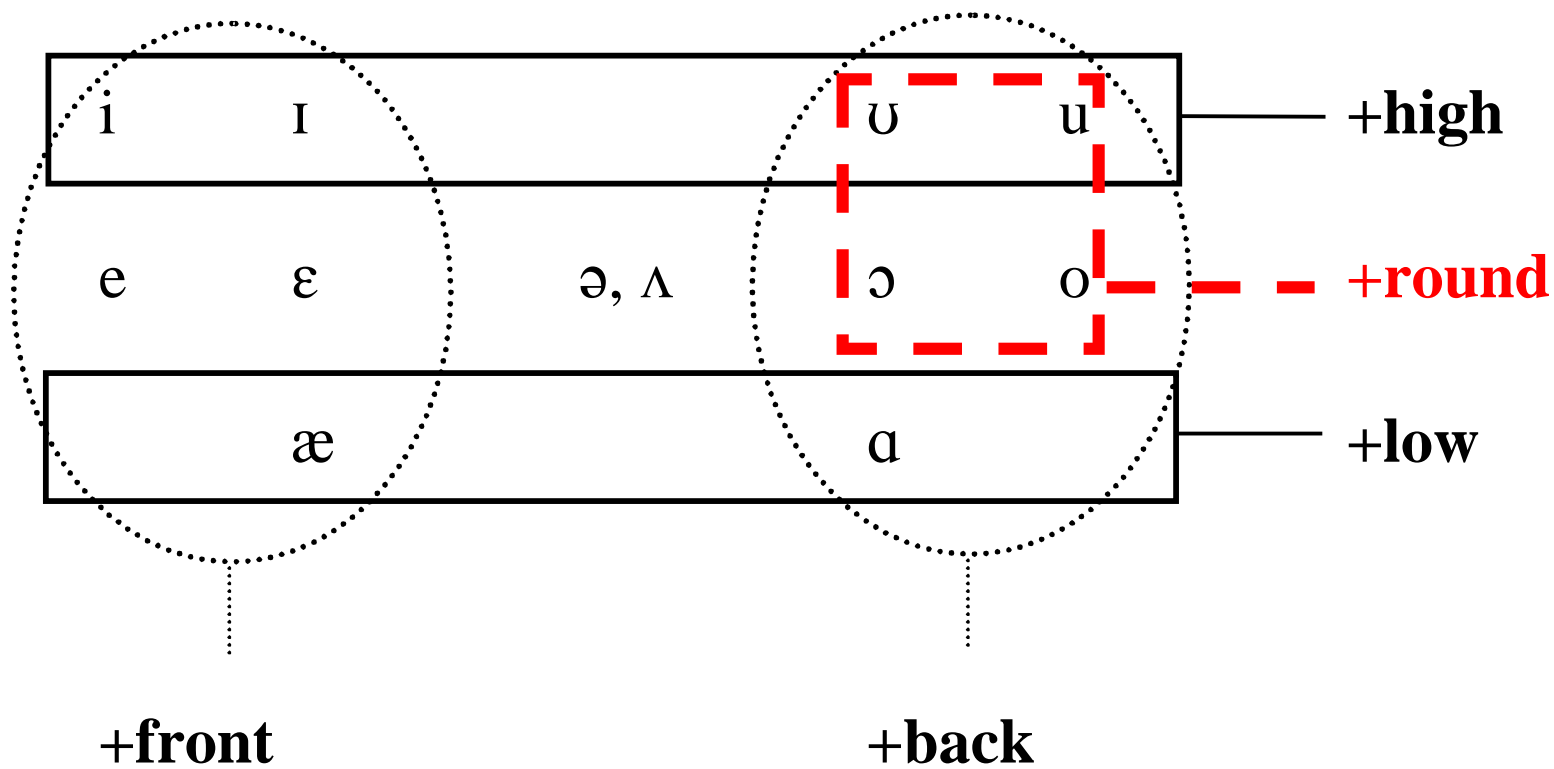
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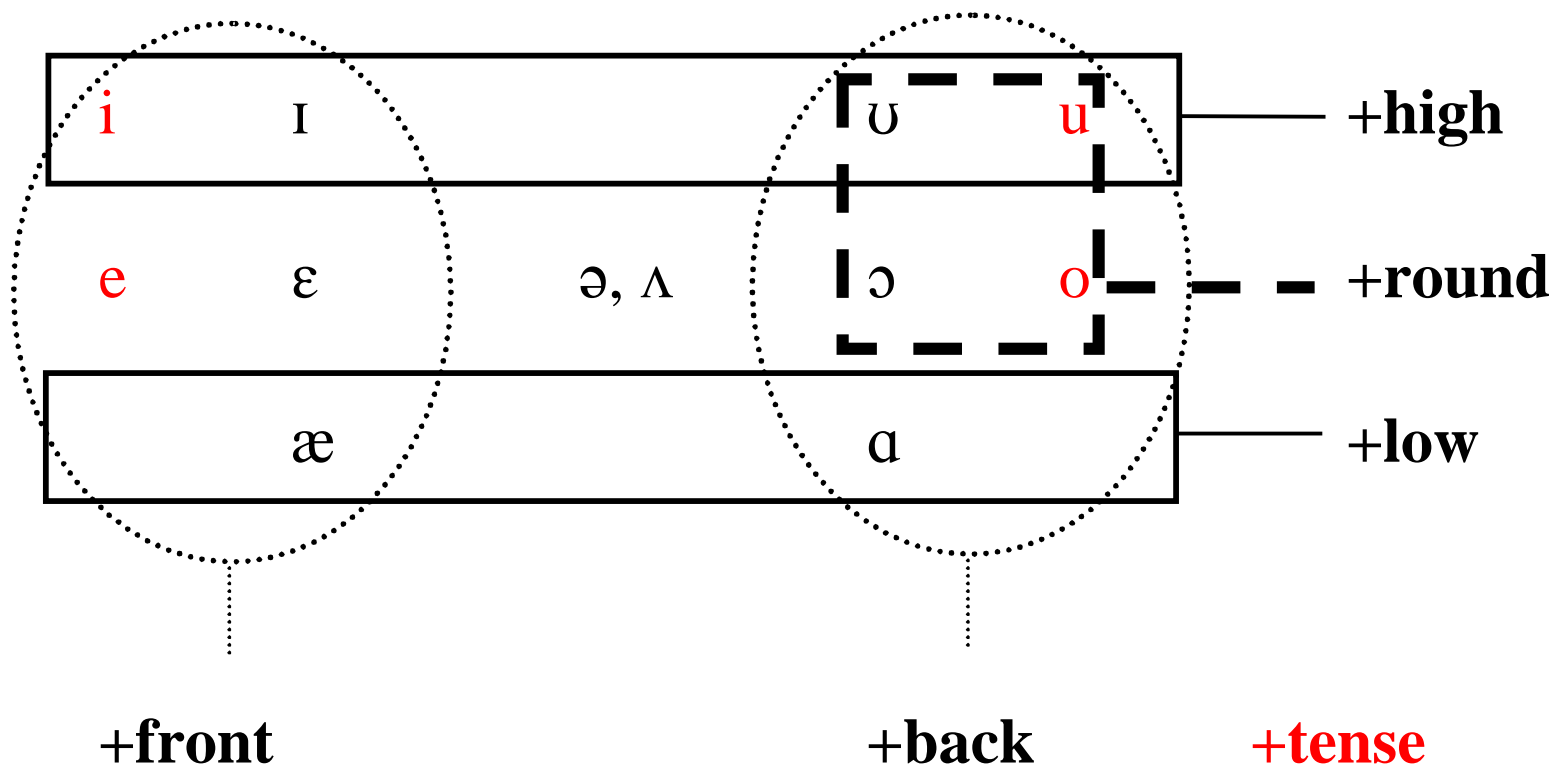
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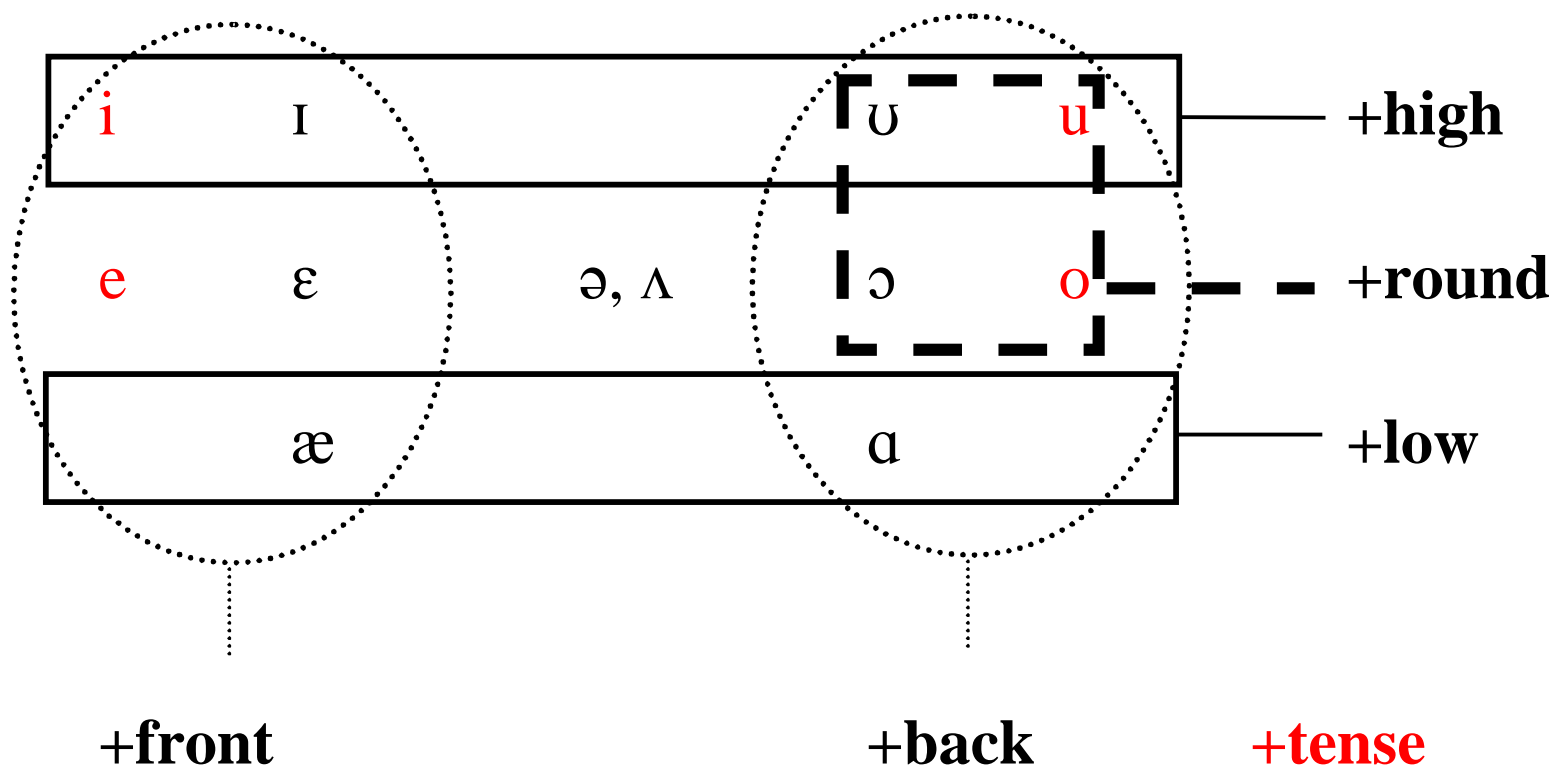
What Features Are There?



What Features Are There?



What Features Are There?



(and all of these vowels are [-consonantal, +continuant, +sonorant, +voice]...and these happen to be [-nasal])

Rule Ordering: Tangale

	<u>'N'</u>	<u>'the N'</u>	<u>UR</u>
'meat'	loo	loo-í	loo
'window'	bugat	bugat-í	bugat
'berry'	tugat	tugad-í	tugad
'load'	aduk	aduk-í	aduk
'harp'	kúluk	kúlug-í	kúlug

final devoicing: C--> [-voice] / ____ #

Rule Ordering: Tangale

	<u>'N'</u>	<u>'the N'</u>	<u>'my N'</u>	<u>UR</u>
'meat'	loo	loo-í	loo-nó	loo
'window'	bugat	bugat-í	bugad-nó	bugat
'berry'	tugat	tugad-í	tugad-nó	tugad
'load'	aduk	aduk-í	adug-nó	aduk
'harp'	kúluk	kúlug-í	kúlug-nó	kúlug

C--> [-voice] / ____ #

C--> [+voice] / ____ [+nasal]

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'load'	aduk	aduk-í	adug-nó	aduk
'harp'	kúluk	kúlug-í	kúlug-nó	kúlug
'tooth'	wudó	wud-í		
'bag'	lútu	lút-í		
'shoe'	taga	tag-í		
'salt'	duka	duk-í		
'spoon'	kagá	kag-í		

C--> [-voice] / ____ #

C--> [+voice] / ____ [+nasal]

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'load'	aduk	aduk-í	adug-nó	aduk
'harp'	kúluk	kúlug-í	kúlug-nó	kúlug
'tooth'	wudó	wud-í		wudó
'bag'	lútu	lút-í		lútu
'shoe'	taga	tag-í		taga
'salt'	duka	duk-í		duka
'spoon'	kagá	kag-í		kagá

C--> [-voice] / ____ #

C--> [+voice] / ____ [+nasal]

vowel drops before a suffix

Rule Ordering: Tangale

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'berry'	tugat	tugad-í	tugad-nó	tugad
'load'	aduk	aduk-í	adug-nó	aduk
'harp'	kúluk	kúlug-í	kúlug-nó	kúlug
'tooth'	wudó	wud-í	wud-nó	wudó
'bag'	lútu	lút-í	lút-nó	lútu
'shoe'	taga	tag-í	tag-nó	taga
'salt'	duka	duk-í	duk-nó	duka
'spoon'	kagá	kag-í	kag-nó	kagá

C--> [-voice] / ____ #  **vowel drops before suffix**

C--> [+voice] / ____ [+nasal]  ?

Rule Ordering: Tangale

UR
vowel drops before suffix
C--> [+voice] / ____ [+nasal]

lútu-nó 'my bag'

lút-nó

lúd-nó

UR
C--> [+voice] / ____ [+nasal]
vowel drops before suffix

lútu-nó

--

lút-nó

Rule Ordering: Tangale

UR
vowel drops before suffix
C--> [+voice] / ____ [+nasal]

lútu-nó 'my bag'
lút-nó
lúd-nó

UR
C--> [+voice] / ____ [+nasal]
vowel drops before suffix

lútu-nó
--
lút-nó
the winner!

Conclusions:

- Rules are best stated in terms of features.
(i.e., not **g**-->**k**...
but [-sonorant]-->[-voice])
- Rules may be ordered.
- The Underlying Representation (UR) can be abstract.

Chukchee: fun with abstract URs

ergative language, like **Inuktitut**:

Inuktitut

Arna **-p** angut takuvaa [*transitive*]

woman **ERG** man-**ABS** saw

‘The woman saw the man’

Arnat mirsurput [*intransitive*]

women-**ABS** sew

‘The women are sewing’

(ergative case for subjects of transitive clauses,
absolutive case for objects of transitive clauses
and subjects of intransitives)

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	
tig	tig-e	'ski'
wejem	wejem-e	'river'
rileq	rileq-e	'spine'
ηileq	ηileqe-te	'match'
milut	milute-te	'rabbit'
uwequc	uwequci-te	'husband'

Chukchee

<u>abs. sg.</u>	<u>erg.</u>		<u>UR</u>
tig	tig-e	'ski'	tig
wejem	wejem-e	'river'	wejem
rileq	rileq-e	'spine'	rileq
ɲileq	ɲileqe-te	'match'	ɲileqe
milut	milute-te	'rabbit'	milute
uwequc	uwequci-te	'husband'	uwequci
		'ergative'	-e

∅-->[alveolar, -continuant, -voice] / V __ V

- **uwequci + e --> uwequcie**

epenthesis

Chukchee

<u>abs. sg.</u>	<u>erg.</u>		<u>UR</u>
tig	tig-e	'ski'	tig
wejem	wejem-e	'river'	wejem
rileq	rileq-e	'spine'	rileq
ɲileq	ɲileqe-te	'match'	ɲileqe
milut	milute-te	'rabbit'	milute
uwequc	uwequci-te	'husband'	uwequci
		'ergative'	-e

Ø-->[alveolar, -continuant, -voice] / V __ V **epenthesis**

- **uwequci + e --> uwequcie**

V-->Ø / __ #

apocope

- **uwequci --> uwequc** (mysteriously, doesn't apply to erg.)

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	<u>abs. pl.</u>		<u>UR</u>
tig	tig-e	tig-ə t	'ski'	tig
wejem	wejem-e	wejem-ə t	'river'	wejem
rileq	rileq-e	rileq-ə t	'spine'	rileq
ɲileq	ɲileqe-te	ɲileqe- t	'match'	ɲileqe
milut	milute-te	milute- t	'rabbit'	milute
uwequc	uwequci-te	uwequci- t	'husband' 'ergative'	uwequci -e

Ø-->[alveolar, -continuant, -voice] / V __ V

V-->Ø / __ #

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	<u>abs. pl.</u>		<u>UR</u>
tig	tig-e	tig-ə̣t	'ski'	tig
wejem	wejem-e	wejem-ə̣t	'river'	wejem
rileq	rileq-e	rileq-ə̣t	'spine'	rileq
ɲileq	ɲileqe-te	ɲileqe-t	'match'	ɲileqe
milut	milute-te	milute-t	'rabbit'	milute
uwequc	uwequci-te	uwequci-t	'husband'	uwequci
			'ergative'	-e
			'abs. plural'	-t
∅-->	[alveolar, -continuant, -voice]	/ V __ V		
V-->	∅ / __ #			
∅-->	[-high, -low, -front, -back...]	/ C __ C#	(tig + t-->tig-ə̣t)	

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	<u>abs. pl.</u>		<u>UR</u>
	imti-te	imti-t	'load'	
	ekke-te	ekke-t	'son'	
ɲileq	ɲileqe-te	ɲileqe-t	'match'	ɲileqe
milut	milute-te	milute-t	'rabbit'	milute
uwequc	uwequci-te	uwequci-t	'husband'	uwequci
			'ergative'	-e
			'abs. plural'	-t

Ø-->[alveolar, -continuant, -voice] / V __ V

V-->Ø / __ #

Ø-->[-high, -low, -front, -back...] / C __ C#

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	<u>abs. pl.</u>		<u>UR</u>
	imti-te	imti-t	'load'	imti
	ekke-te	ekke-t	'son'	ekke
ɲileq	ɲileqe-te	ɲileqe-t	'match'	ɲileqe
milut	milute-te	milute-t	'rabbit'	milute
uwequc	uwequci-te	uwequci-t	'husband'	uwequci
			'ergative'	-e
			'abs. plural'	-t

Ø-->[alveolar, -continuant, -voice] / V __ V

V-->Ø / __ #

Ø-->[-high, -low, -front, -back...] / C __ C#

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	<u>abs. pl.</u>		<u>UR</u>
imət	imti-te	imti-t	'load'	imti
ekək	ekke-te	ekke-t	'son'	ekke
ɲileq	ɲileqe-te	ɲileqe-t	'match'	ɲileqe
milut	milute-te	milute-t	'rabbit'	milute
uwequc	uwequci-te	uwequci-t	'husband'	uwequci
			'ergative'	-e
			'abs. plural'	-t

Ø-->[alveolar, -continuant, -voice] / V __ V

V-->Ø / __ #

Ø-->[-high, -low, -front, -back...] / C __ C#

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	<u>abs. pl.</u>		<u>UR</u>
imət	imti-te	imti-t	'load'	imti
ekək	ekke-te	ekke-t	'son'	ekke
ceŋəl	cenle-te	cenle-t	'box'	
wiŋər	winri-te	winri-t	'hoe'	
ŋileq	ŋileqe-te	ŋileqe-t	'match'	ŋileqe
milut	milute-te	milute-t	'rabbit'	milute
uwequc	uwequci-te	uwequci-t	'husband'	uwequci
			'ergative'	-e
			'abs. plural'	-t

Ø-->[alveolar, -continuant, -voice] / V __ V

V-->Ø / __ #

Ø-->[-high, -low, -front, -back...] / C __ C#

Chukchee

<u>abs. sg.</u>	<u>erg.</u>	<u>abs. pl.</u>		<u>UR</u>
imət	imti-te	imti-t	'load'	imti
ekək	ekke-te	ekke-t	'son'	ekke
ceŋəl	cenle-te	cenle-t	'box'	ceŋle
wiŋər	winri-te	winri-t	'hoe'	wiŋri
ŋileq	ŋileqe-te	ŋileqe-t	'match'	ŋileqe
milut	milute-te	milute-t	'rabbit'	milute
uwequc	uwequci-te	uwequci-t	'husband'	uwequci

[**velar, +nasal**]-->[**alveolar**] / __ [**alveolar**]

Ø-->[**alveolar, -continuant, -voice**] / V __ V

V-->Ø / __ #

Ø-->[**-high, -low, -front, -back...**] / C __ C#

assimilation

Chukchee: two morals of the story

- rule ordering:

imti 'load' **UR**

Chukchee: two morals of the story

- rule ordering:

imti 'load' UR

imt V-->∅ / __ #

imət ∅-->[-high, -low, -front, -back...] / C __ C#

→ **correct output**

Chukchee: two morals of the story

- rule ordering:

imti 'load' UR

imt V-->Ø / __ #

imət Ø-->[-high, -low, -front, -back...] / C __ C#
→ **correct output**

imti 'load' UR

-- Ø-->[-high, -low, -front, -back...] / C __ C#

imt V-->Ø / __ #
→ **incorrect output**


Chukchee: two morals of the story

- rule ordering
- abstract underlying representations:

ceŋle 'box'

Chukchee: two morals of the story

- rule ordering
- abstract underlying representations:

ceŋle 'box'  **ceŋəl** 'box, abs. sg.' (apocope,
schwa-epenthesis)

Chukchee: two morals of the story

- rule ordering
- abstract underlying representations:

