

Phonology 2

- əjv hæd ə p^həɪfəktliʃ wʌndəɪfəl ɪvniŋ, bʌt ðɪs wʌznt ɪt.
- ðəʊz ɔɪ məj p^hɪnsɪpəlz, ænd ɪf juw dɔwn t lajk ðəm,
wɛl, əj hæv ʌðəz.
- juw səɪvɪs? sɛnd ʌp ə lɑɪdʒəɪ juw.
- ɪjðəɪ ðɪs mən ɪz dɛd ɔɪ məj wɔtʃ hæz stɑpt.
- t^həɪm flɑjz lajk ən ɛɔw. fɪw t flɑjz lajk ə bənænə.

--gɪɔwtʃəʊ mɑɪks

náma + tamágo → namatámago
raw egg raw egg

nó + nezumi → nonézumi
field mouse field mouse

furáido + póteto → furaidopóteto
fried potato fried potato (french fry)

tinomi + ko → tinomíko
milk-drinking child nursing baby

kágawa + kén → kagawáken
 prefecture Kagawa prefecture

furáido + póteto → furaidopóteto
fried potato fried potato (french fry)

kágawa + kén → kagawáken
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Instructions for accenting compounds:

- the compound must only have one accent (cf. all words)
- the accent should be next to the boundary between the words
- if possible, the accent should be on the second word
- the accent should not be final

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To put that another way “don’t put the accent on the last syllable” is more important than “put the accent on the second word”. (so: kagawáken, not kagawakén)

More on Japanese accent: compounds

kágawa + kén → kagawáken

prefecture Kagawa prefecture

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kágawa + kén	E ACCENT	ACCENT NEAR BOUNDARY	<u>FINAL</u> ACCENT	ACCENT AST WORD
kágawakén	*		*	
kágawaken		*		*
kagáwaken		*		*
kagawáken				*
kagawakén			*	

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kágawakén	*		*	
kágawaken		*		*
kagáwaken		*		*
☞ kagawáken				*
kagawakén			*	

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furáidopóteto	*			
furáidopoteto		*		*
furaidópoteto				*
☞ furaidopóteto				
furaidopotéto		*		

kágawa + kén	E ACCENT	ACCENT NEAR BOUNDARY	<u>FINAL</u> ACCENT	ACCENT AST WORD
kágawakén	*		*	
kágawaken		*		*
kagáwaken		*		*
☞ kagawáken				*
kagawakén			*	

On this view, phonological grammars consist of ranked, violable constraints, and cross-linguistic variation is a matter of reranking.

Replacing ordered rules with lists of constraints.

If we just had a series of rules for Japanese accent...

- ‘delete accent before *úrai*’
- ‘delete accent of *áde* after an accented word’
- ‘in a compound, delete the underlying accents, and put a new one in the following place...’

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(and remember Yawelmani: “avoid *CCC, by inserting vowels or deleting *h*”)

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(compare two imaginable stories about Polish: “final consonants devoice” vs. “final b, d, g, and z devoice”)

k^hæt

k^hæts

dɔg

dɔgz

bʊf

bʊfəz

What's the underlying form of the plural suffix?

k^hæt k^hæts (k^hæt-z)

dɔg dɔgz

bʊf bʊfəz (bʊf-z)

What's the underlying form of the plural suffix?

-z, and there are generalizations like...

k^hæt k^hætʰs (*k^hæt-z)

dɔg dɔgz

bʊf bʊfəz (bʊf-z)

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-z, and there are generalizations like:

* “Words can't end in a z preceded by a voiceless sound”

k^hæt k^hæts (*k^hæt-z)

dɔg dɔgz

bʊf bʊfəz (*bʊf-z)

What's the underlying form of the plural suffix?

-z, and there are generalizations like:

* “Words can't end in a z preceded by a voiceless sound”

* “Words can't end in two strident consonants”

k^hæt k^hætʰs (*k^hæt-z)

dɔg dɔgz

bʊf bʊfəz (*bʊf-z)

What's the underlying form of the plural suffix?

...and there are *procedures* for repairing violations of these principles, like **devoicing**...

k^hæt k^hæts (*k^hæt-z)

dɔg dɔgz

bʊf bʊfəz (*bʊf-z)

What's the underlying form of the plural suffix?

...and there are *procedures* for repairing violations of these principles, like **devoicing**, and **insertion of schwa**.

This is a **wug**.



Now there are two
of them.



This is a **wug**.
Now there are two
of them.
There are two...



Wug test (Berko 1957)

mistakes made by children (5- and 7-year-olds):

hif hifəz

fæs fæs

mΛz mΛz

mistakes made by children (5- and 7-year-olds):

hif	hifəz
fæs	fæs
mΛz	mΛz

mistakes not made by children:

*fæsz, *wukz, *wΛgs

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mistakes made by children (5- and 7-year-olds):

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so what do the children know, and what do they not know?

Moral: we need to distinguish between *phonotactics* and the particular sound changes that enforce phonotactics; it's apparently possible to know one but not the other.

Now, we have already been discussing sound change in terms of *natural classes*—saying things like “two stridents can’t end a word in English”. Let’s figure out more about those classes...

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

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+nasal

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+nasal

+sonorant

bilabial	p	b	m	w			
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glottal	ʔ					h	

+nasal
+sonorant

+voice

black-en, whit-en, less-en, fresh-en, dark-en...
yellow-Ø, dim-Ø, grey-Ø, clear-Ø, brown-Ø...

Polish plurals yet again

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
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

final consonants become voiceless?

C --> [-voice] / ___ #

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

final obstruents become voiceless

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

-
- sounds undergo change, describable in terms of rules:
[-sonorant] → [-voice] / ___ #

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- sounds undergo change, describable in terms of rules:
[-sonorant] → [-voice] / ___ #
 - these rules are part of our knowledge of a language
 - they are best stated in terms of features
 - they may be fruitfully modelled as involving ranked constraints
 - on the other hand, there are cases where it looks more like rules are being ordered with respect to each other.

(consider Lardil...)

wangalk > wangal ‘boomerang’

kandu > kanda ‘blood’

ngaluk > ngalu ‘story’

Sonorant

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

Sonorants: nasals,
liquids, glides
(sounds with no
buildup of pressure)

Obstruents: non-
sonorants

+sonorant

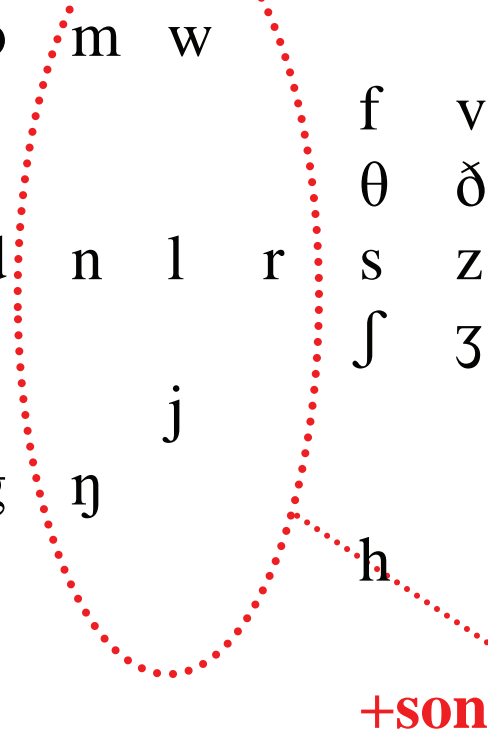
bilabial	p	b	m	w				Sonorants: nasals, liquids, glides (sounds with no buildup of pressure)
labiodental					f	v		
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palatal				j				Obstruents: non- sonorants
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+sonorant

“Final devoicing” (e.g., in Polish) applies just to obstruents.

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+sonorant

Sonorants: nasals, liquids, glides
(sounds with no buildup of pressure)

Obstruents: non-sonorants

“Final devoicing” (e.g., in Polish) applies just to obstruents.
Many languages (e.g., English) don’t allow words to start with a sonorant followed by an obstruent: *rtip, *nsack...

Arabic definite article

ʔal-qamr ‘the moon’

ʔal-faras ‘the mare’

ʔal-kitaab ‘the book’

ʔal-harb ‘the war’

ʔal-ʔab ‘the father’

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ʔan-nahr ‘the river’

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ʔan-nahr ‘the river’

ʔaθ-θawb ‘the garment’

(“moon letters”: q, f, k, h, ʔ...)

(“sun letters”: ʃ, d, z, n, θ...)

Coronal

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

coronal: articulated with the tongue tip or blade

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velar	k	g	ŋ				
uvular	q						
glottal	ʔ					h	

coronal: articulated with the tongue tip or blade

ʔaf-**f**ams, ʔad-**d**aar, ʔaz-**z**ajt, ʔan-**n**ahr, ʔaθ-**θ**awb...

Coronal

bilabial	p	b	m	w			
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velar	k	g	ŋ				
uvular	q						
glottal	ʔ					h	

coronal: articulated with the tongue tip or blade

ʔaʃ-ʃams, ʔad-**d**aar, ʔaz-**z**ajt, ʔan-**n**ahr, ʔaθ-**θ**awb...

ʔal-**q**amr, ʔal-**f**aras, ʔal-**k**itaab, ʔal-**h**arb, ʔal- ab...

Coronal

A rule for the Arabic definite article:

$$[l] \rightarrow C_i / \text{---} C_{i, [+coronal]}$$

(notice that [l] is also coronal...)

Coronal

A rule for the Arabic definite article:

$$[l] \rightarrow C_i / \text{---} C_{i, [+coronal]}$$

(notice that [l] is also coronal...)

assimilation rule: one sound becomes more like another sound.

(saves wear and tear on articulators, and probably makes perception easier, too...)

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