

Underlying representations (*biểu diễn tầng sâu*)

Cơ sở âm vị học và ngữ âm học

Lecture 8

BTVN 2

- Minimal pairs (*cặp tối thiểu*) : phải được phân biệt nhau với **một** âm đoạn thôi...
- Inuktitut: difference between minimal pairs and phonemes (*âm vị*).
- Greek: nếu hai âm đoạn thể phân bố bổ sung thì *miêu tả bối cảnh* là gì...

The story so far

- Up to now we have been concerned with the classification and distribution of speech sounds (*phân loại và phân bố của âm tố lời nói*).
- We have been calling these **phonemes** and their realizations **allophones**.
- The focus has been on determining and describing the **environments** that conditions allophonic variation.

Predictable allophonic variation

[p ^h ɒt]	pot	[spɒt]	spot
[t ^h ɒp]	top	[stɒp]	stop
[k ^h ɒt]	cot	[skɒt]	scot

/ p t k / → [p^h t^h k^h] / __ V

Morphophonology (*hình âm vị học*)

- Just like phonemes are the minimal units of contrast at the level of sound, there are minimal units at the level of words: **morphemes** (*hình vị*)
- Sometimes words are morphemes, but things smaller than words (syllables) can be morphemes, too.

Morphophonological alternation

- Just like phonemes, morphemes can have systematically different shapes in different phonological environments

/-z/	/-s/	/-ɪz/
'dogs'	'cats'	'horses'

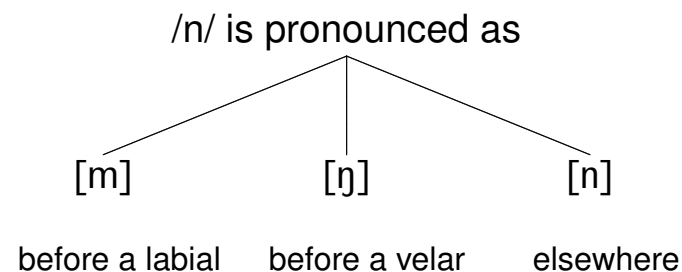
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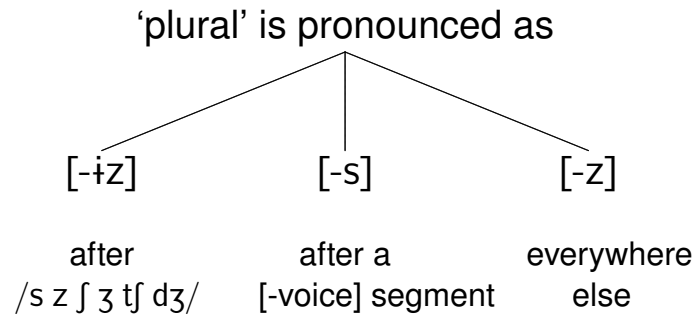
/-z/	/-s/	/-ɪz/
[+voice]	[-voice]	/s z ʃ ʒ tʃ dʒ/

- These variants are called **allomorphs** (*thà hình vị*)

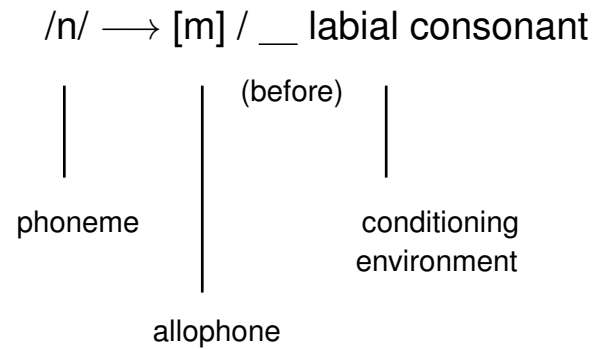
This should remind you of something else



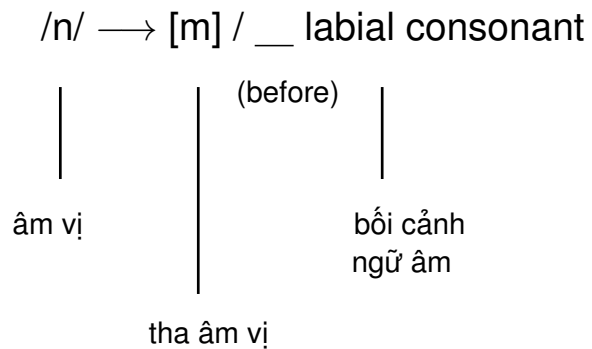
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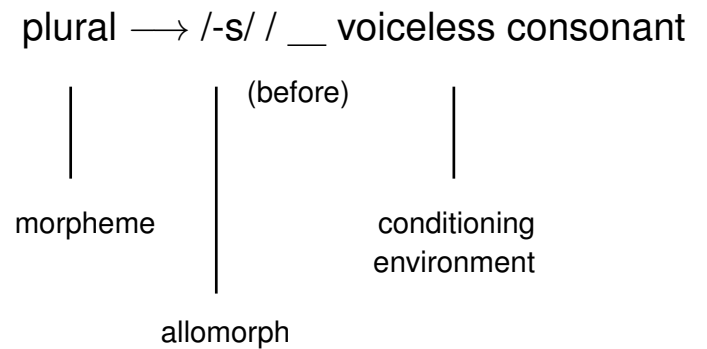
Rule notation



Rule notation



Rule notation



Morphophonological alternation

- The distribution of allomorphs of a morpheme seems to work the same way that different allophones of a phoneme are conditioned by phonetic environment.
- In morphophonological alternation the environment is often – but not always – phonetic.

Koasati possessive allomorphy

<i>Noun</i>	<i>My N</i>	<i>gloss</i>
apahčá	amapahčá	'shadow'
ilkanó	amilkanó	'right side'
ifá	amifá	'dog'
a:pó	ama:pó	'grandmother'
pačokkó:ka	ampačokkó:ka	'chair'
towá	antowá	'onion'
kastó	aŋkastó	'flea'
bayá:na	ambayá:na	'stomach'
tá:ta	antá:ta	'father'

Assumptions

1. There is a **single basic form** of each morpheme.
2. The different forms (allomorphs) are predictable from **phonological rules**.

The single basic form of a morpheme is its **underlying representation** (UR).

Morphophonological analysis

Given an alternation involving forms x, y, z :

1. What is the **underlying representation** w of these forms?
2. What are the processes that account for the surface differences between x, y and z ?

Morphophonemic variation

American English tapping/flapping:

bet	[bɛt]	betting	[bɛrɪŋ]
hit	[hɪt]	hitting	[hɪrɪŋ]
put	[pʊt]	putting	[pʊrɪŋ]

These are instances of the same **morpheme** (lexical entry).

Morphophonemic variation

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bet	[bɛt]	betting	[bɛrɪŋ]
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What are the URs?

What is the rule?

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What are the URs?

/bɛt/ /hɪt/ /pʊt/

What is the rule?

t → r / V __ V

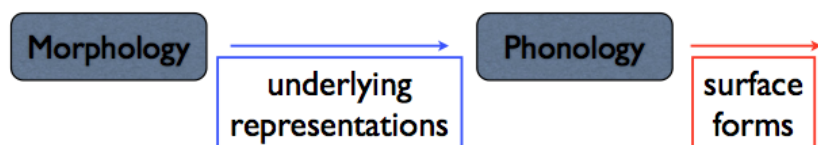
Underlying representations

- Morphemes can be combined, then phonological rules produce the surface forms.
- A phonological analysis states the URs and describes the changes to them.



Underlying representations

- Underlying representations may be highly **abstract** concepts
- They are **not necessarily equivalent** to actually pronounced forms!



Polish

<i>sg</i>	<i>pl</i>	gloss	<i>sg</i>	<i>pl</i>	gloss
klup	klub̩	'club'	kot	koti	'cat'
trup	trup̩	'corpse'	dom	domi	'house'
snop	snopi	'sheaf'	koj	koje	'basket'
trut	trudi	'labor'	wuk	wugi	'lye'
nos	nosi	'nose'	wuk	wuki	'bow'
vos	vozi	'cart'	ul	ule	'beehive'
grus	gruzi	'rubble'	jum	jumi	'noise'
zur	zuri	'soup'	dzvon	dzvoni	'bell'

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- Final obstruents are **always** voiceless in the singular
- Same obstruents **sometimes** voiceless in the plural

Which rule is better?

<i>sg</i>	<i>pl</i>	gloss	<i>sg</i>	<i>pl</i>	gloss
klup	klub ⁱ	'club'	kot	koti ⁱ	'cat'
trup	trup ⁱ	'corpse'	dom	dom ⁱ	'house'
snop	snop ⁱ	'sheaf'	koj	koje	'basket'
trut	trud ⁱ	'labor'	wuk	wug ⁱ	'lye'
nos	nosi ⁱ	'nose'	wuk	wuk ⁱ	'bow'
vos	voz ⁱ	'cart'	ul	ule	'beehive'
grus	gruz ⁱ	'rubble'	fum	fum ⁱ	'noise'
zur	zuri ⁱ	'soup'	dzvon	dzvoni ⁱ	'bell'

- [−sonorant] → [+voice] / V __ V
- [−sonorant] → [−voice] / __ #

Which rule is better?

[−sonorant] → [−voice] / __ #

1. The **existence** of non-alternating stems
2. The **absence** of stem-final [+voice] obstruents

Underlying representations

<i>sg</i>	<i>pl</i>	UR	<i>sg</i>	<i>pl</i>	UR
klup	klub ⁱ	klub	kot	koti ⁱ	kot
trup	trup ⁱ	trup	dom	dom ⁱ	dom
snop	snop ⁱ	snop	koj	koje	koj
trut	trud ⁱ	trud	wuk	wug ⁱ	wug
nos	nosi ⁱ	nos	wuk	wuk ⁱ	wuk
vos	voz ⁱ	voz	ul	ule	ul
grus	gruz ⁱ	gruz	fum	fum ⁱ	fum
zur	zuri ⁱ	zur	dzvon	dzvoni ⁱ	dzvon

Neutralisation

[−sonorant] → [−voice] / __ #
is a **neutralisation rule** (*quy luật trung hoà*)

- Two underlyingly distinct segments have the **same** phonetic realisation in the same context.
- By changing one phoneme into another, the rule **neutralises** the contrast.

Neutralisation in Finnish

Finnish has 8 phonemic vowels: *i ü o ö æ u a e*

<i>Nom sg</i>	<i>Part sg</i>	<i>gloss</i>	<i>Nom sg</i>	<i>Part sg</i>	<i>gloss</i>
aamu	aamua	'morning'	yoki	yokea	'river'
hopea	hopeaa	'silver'	kivi	kiveä	'stone'
katto	kattoa	'roof'	muuri	muuria	'wall'
kello	kelloa	'clock'	naapuri	naapuria	'neighbor'
kirya	kiryaa	'book'	ovi	ovea	'door'
külmä	külmäæ	'cold'	tukki	tukkia	'log'
koulu	koulua	'school'	æiti	æitiæ	'mother'
lintu	lintua	'bird'	yærvi	yærveæ	'lake'
hüllü	hüllüæ	'shelf'	koski	koskea	'waterfall'
kömpelö	kömpelöæ	'clumsy'	reki	rekeæ	'sledge'
kaikki	kaikkea	'all'	væki	vækeæ	'people'

Neutralisation in Finnish

Partitive suffix is /-æ/ (/ -a/ if there is a back vowel in the stem)

<i>Nom sg</i>	<i>Part sg</i>	<i>gloss</i>	<i>Nom sg</i>	<i>Part sg</i>	<i>gloss</i>
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lintu	lintua	'bird'	yærvi	yærveæ	'lake'
hüllü	hüllüæ	'shelf'	koski	koskea	'waterfall'
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kaikki	kaikkea	'all'	væki	vækeæ	'people'

Neutralisation in Finnish

e → *i* / __ #

<i>Nom sg</i>	<i>Part sg</i>	<i>gloss</i>	<i>Nom sg</i>	<i>Part sg</i>	<i>gloss</i>
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Vowel length in SSE

Short vowels	Long vowels
eat [it]	/i/ ear [i:r]
date [det]	/e/ day [de:]
half [haf]	/a/ halve [ha:v]
loose [lus]	/u/ lose [lu:z]
fall [fol]	/o/ for [fo:r]
site [sajt]	/ai/ sigh [sa:j]

- What is the conditioning factor governing the variation in length?

Vowel length in SSE

V:

Short vowels		Long vowels
eat [it]	/i/	ear [i:r]
date [det]	/e/	day [deɪ]
half [haf]	/a/	halve [ha:v]
loose [lus]	/u/	lose [lu:z]
fall [fɒl]	/ɒ/	for [fɔ:r]
site [saɪt]	/aɪ/	sigh [saɪj]

- / __ r
- / __ [-son, +cont, +voice]
- / __ #
- elsewhere

V

Vowel length in SSE

Short vowels	Long vowels
toad [tod]	towed [to:d]
side [saɪd]	sighed [saɪjd]
staid [sted]	stayed [ste:d]
brood [brud]	brewed [bru:d]
need [nid]	kneed [ne:d]

- So is vowel length allophonic in SSE?

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Vowels are **long** before the past-tense morpheme (*hình vị quá khứ*).

The conditioning environment is clearly **not** phonological!

Summary

- Morphemes can have different realisations (allomorphs: *thà hình vị*) in different environments
- URs provide a way of recognizing the basic 'sameness' of allomorphs
- URs allow us to **simplify** grammatical description by encoding only **unpredictable** information (*thông tin mà không thể dự đoán được*)