LINGUISTICS 221 **LECTURE #10**

Introduction to Phonetics and Phonology

Phonemic Analysis (continued)

1. FORMALIZING PHONOLOGICAL RULES

PHONOLOGICAL RULES**:** Formalized general statements about the distribution of non-contrastive properties of segments; they provide the phonetic information necessary for the pronunciation of utterances.

INPUT: Phonemic (dictionary) representation of words in a sentence.

OUTPUT: Phonetic representation of words in a sentence.

INPUT:	UNPREDICTABLE
OUTPUT:	PREDICTABLE

Unpredictable segments: *BASE FORMS* or *UNDERLYING FORMS or PHONEMIC REPRESENTATIONS* .

Predictable segments: *DERIVED FORMS, or SURFACE FORMS or PHONETIC REPRESENTATIONS*

Phonological rules derive phonetic representations (PR) from underlying representations (UR).

FOCUS (input) + CONTEXT (environment): **Structural Description** (SD)

output: **Structural Change** (SC)

$$A \rightarrow B \ / \ x \text{ — } y$$

Read: A becomes B between x and y

A (input) , x — y (environment), B (output)

Expressing environment: Read 2.8.1 (p. 28)

2. PHONEMES IN OTHER LANGUAGES: PATTERN AND SYMMETRY

In 40% of an extensive survey of languages (Maddieson, 1984) the following -- "maximally ordinary" phonemic system occurs: p. 31

Examples of different vowel phonemic systems:

(a) Basic three-vowel pattern:

i u

a

Inuit, Arabic, etc.

Why these three vowels??

(b) Five-vowel systems:

i u
e o
a

Spanish, Maori, Czech, etc.

(c) Seven-vowel system:

i u
e o
ɛ ɔ
a

Italian, Kikuyu (Kenya), etc.

(d) The utilization of vowel length in the system:

i i: u u:

a a:

Several aboriginal languages in Australia have this system.

Some languages may have an asymetrical system:

i u
e
a

Cocopa (Arizona), etc.

SYMMETRY IN THE PATTERNING OF ALLOPHONES:

e.g., English /b/ /d/ /g/ may be devoiced;
/t/ /d/ /n/ may have dental articulation;
etc.

Certain processes in sound change seem to favour symmetry:

e.g., Anglo-Saxon voiced fricatives were *not* separate phonemes, but *allophones* of the voiceless fricatives. Emergence of separate voiced fricatives:

/θ/ /f/ /s/
/ð/ /v/ /z/

kni*f*e, but kni*v*es
hal*f* hal*v*es
sou*th* sou*th*ern
hou*s*e hou*s*es

By the time the voiced fricatives had achieved phonemic status in English, another voiceless fricative had also arisen:

/ʃ/

(Anglo-Saxon *scip*, *sciell* → Modern English *ship*, *shell*)

This fricative did not have a partner; occurrences of the voiced partner were supplied by (a) French loans (*beige*, *rouge*, etc.) or (b) assimilation (*measure*, *treasure*, etc.).

- Phonological symmetry is only a *tendency*;
- Role of *perceptual distance* plays an important part;
- Symmetry: optimizing the use of phonetic parameters.

3. DERIVATIONS

Objective: apply phonological rules in order to arrive at the *surface representation*.

A derivation consists of a series of lines, the first being the *underlying representation*.

UR	/pænda/
Aspiration Rule	p^hænda
Nasalization Rule	p^hæ̃nda
Vowel Reduction Rule	p^hæ̃ndə
PR	[p^hæ̃ndə]

Study additional examples on p. 30.