LINGUISTICS

THIRD YEAR

LECTURE (8): THE SOUND PATTERNS OF LANGUAGE

PHONETICS VS. PHONOLOGY

- The human vocal organs can produce a very wide range of sounds; but only a small number of these are used in a language to construct all of its words and sentences.

Phonetics	Phonology
Phonetics: is the general study of the characteristics of speech sound. It concerns with the study of how speech sounds are made, transmitted, and received.	Phonology: is essentially the description of the systems and patterns of speech sounds in a language. It is based on a theory of what every speaker of a language unconsciously knows about the sound patterns of that language.
It is the study of all possible speech sounds.	It studies the ways in which a language's speakers (e.g. Arabic) systematically use a selection of these sounds in order to express meaning.
It is concerned with the physical or concrete nature of speech sounds.	It is concerned with the abstract or mental aspect of the sounds in language and how they behave, rather than with the actual physical articulation of speech sounds.
It is closely related to physics.	It is closely related to linguistics, since it studies the sound structures of language to show how they are used to convey meaning.
The basic unit of phonetics is phone.	The basic unit of phonology is phoneme.

PHONEMES

- **The Phoneme:** is the smallest meaning distinguishing sound unit in the abstract representation of the sounds of a language.
- **e.g.** /t/ ≠ /d/
  mate ≠ made
- An essential property of a phoneme is that it functions contrastively.
- This contrastive property is the basic operational test for determining the phonemes that exist in a language.
- If we substitute one sound for another in a word and there is a change of meaning, then the two sounds represent different phonemes.
- In English, two phonemes /f/ &/v/ are contrasted as:

fat ≠ vat
fine ≠ vine

PHONEMES

- The technical terms used to distinguish each phoneme from the next can be considered "**features**"
- Features are marked with sign + & –
- \+ ⟶ feature is **present**
- – ⟶ feature is **not present**
- **e.g. /p/ [– voice, + bilabial, + stop]**

  /k/ [– voice, + velar, + stop]
- Because these two sounds share some features (i.e. both are voiceless stops), they are sometimes described as members of a natural class of sounds.
- The prediction would be that sounds which have features in common would behave phonologically in some similar ways. A sound which does not share those features would be expected to behave differently.

PHONEME VS. PHONE

Phoneme	Phone
The phoneme is the abstract unit **in the mind.** They appear in slashes / / e.g. /t/	Phone is the phonetic unit that represents the actual speech **in the mouth.** They appear in square brackets [ ] e.g. tar, star, writer, eighth

PHONE VS. ALLOPHONE

Phone	Allophone
Phone is a physically produced speech sound, representing one version of a phoneme.	A group of several speech sounds or phones.

For Example: All these phones are allophones of the phoneme /t/, depending on its context.

/t/ = phoneme

- [t] (star) = 1 phone (non-aspiration)
- [t^h] (tar) = 1 phone (aspiration)
- [D] (writer) = 1 phone (flap)
- [t̪] (eighth) = 1 phone (the influence of the final dental [θ] sound causes a dental articulation of the [t] sound)

[t^h] & [D] & [t̪] = allophones

MINIMAL PAIRS AND SETS

- **A minimal pair:** is a pair of words that have different meanings and which differ in only one phoneme, occurring in the same position.

For example

Pat – bat **Set – sit** **Side – site** **Fan – van**

- **A minimal set:** is a group of words that can be differentiated, each one from the other, by changing one phoneme in the same position in the word.

For example

feat/ fit/ fat/ fate/ fought/ foot **(vowel phonemes)**

big/ pig/ rig/ fig/ dig/ wig **(consonant phonemes)**

Four golden rules:

1. They must have the same number of sounds
2. They must be identical in every sound except for one
3. The sound that is different must be in the same position in each word
4. The words must have different meanings

PHONOTACTICS

- **Phonotactics:** constraints on the permitted arrangements or combination of sounds in a language.

For example

The minimal set (big/ pig/ rig/ fig/ dig/ wig) doesn't include (lig/ vig).They are not English words.

- But they could be viewed as possible English words. That is, our phonological knowledge of the pattern of sounds in English words would allow us to treat these forms as acceptable if, at some future time, they came into use.

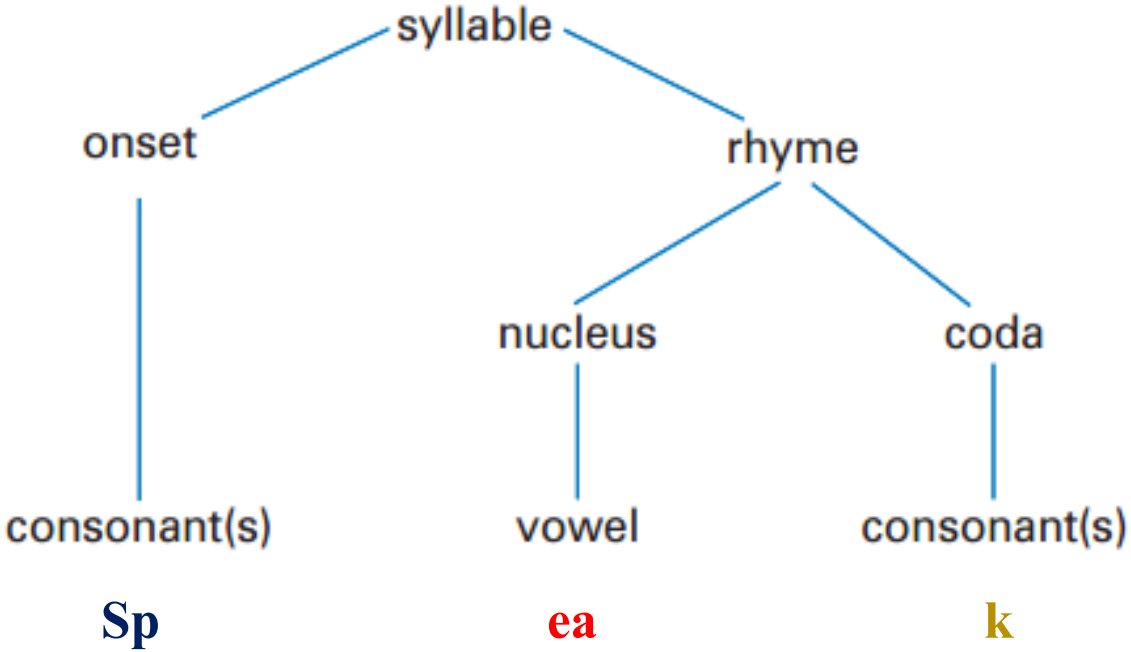
- They might, for example, begin as invented abbreviations (I think Bubba is one very ignorant guy. ~ Yeah, he's a big vig!).

SYLLABLES

- A **syllable**: is a unit of sound consisting of a vowel and optional consonants before or after the vowel.
- A syllable must contain a vowel or vowel-like sound, including diphthongs.

The basic elements of the syllable are:

1. The **onset** (one or more consonants), followed by
2. the **rhyme** (sometimes written as 'rime') consists of a vowel, which is treated as the **nucleus**, plus any following consonant(s), described as the **coda**.



OPEN VS. CLOSED SYLLABLES

- **Two types of syllables:**

1. **Open syllables**: have an onset and a nucleus, but no coda, like me, to or no.
2. **Closed syllables**: have a nucleus and a coda, but no onset, like up, at or and.

- When describing syllables:

➢ C = consonant

➢ V = vowel

- These are the basic structure of the kind of syllable found in English words like green (CCVC), eggs (VCC), ham (CVC), I (V), do (CV), am (VC), cold (CVCC), steals (CCVCC).

CONSONANT CLUSTERS

- A **consonant cluster** (consonant sequence or consonant compound) is a group of consonants which have no intervening vowel.
- Both the onset & the coda can consist of more than one consonant.
- e.g. /st/ = consonant cluster (CC)
  - /st/ = CC = an onset in stop
  - /st/ = CC = a coda in post

Initial consonant cluster

- The number of onset consonant combinations permitted in English phonotactics is maximumly three:

1. The initial onset consonant must always be /s/
2. The medium onset consonants must be one of the voiceless stops /p/, /t/, /k/, /b/, /f/, /g/, /d/, /m/, /n/, /ϴ/
3. The final onset consonants are one of the liquid or glide sounds /l/, /r/, /w/

e.g. splash, spring, strong, scream, square, black, flat, bread, trick, throw, twin

- The number of coda consonant combinations permitted in English phonotactics is maximumly four

e.g. sixths, blank, friction

COARTICULATION EFFECTS

- Mostly our talk is fast and spontaneous, and it requires our articulators to move from one sound to the next without stopping. The process of making one sound almost at the same time as the next sound is called coarticulation.

- Coarticulation refers to the process of changing in speech articulation due to the influence of neighboring speech sounds.

- There are two well-known coarticulation effects, described as **assimilation** and **elision**.

ASSIMILATION

1. **Assimilation** is a common phonological process which occurs when features of a sound is taken or "copied" by another adjacent sound. This regular process happens simply because it's quicker, easier and more efficient for our articulators, for example:

- English word have by itself is often pronounced /hæv/, and in the phrase 'I *have to* go in everyday speech' it is pronounced as [hæft ə] in rapid speech. This is because the [f] and [t] sounds are both voiceless consonants.
- Vowels are also subject to assimilation

- In isolation, we pronounce [i] and [æ] without any nasal quality
- Try saying: bean and ban
- [i] and [æ] [ĩ] and [æ̃].
- **Phonological rule:** Any vowel becomes nasal whenever it immediately precedes a nasal.

	Bilabial		Labiodental		Dental		Alveolar		Palatal		Velar		Glottal	
	–V	+V	–V	+V	–V	+V	–V	+V	–V	+V	–V	+V	–V	+V
Stops	p	b					t	d			k	g		
Fricatives			f	v	θ	ð	s	z	ʃ	ʒ			h	
Affricates									ʧ	ʤ				
Nasals		m						n				ŋ		
Liquids								l r						
Glides		w								j				

ELISION

- **Elision**: The process of leaving out a sound segment that might be present in the deliberately careful pronunciation of a word in isolation.

- The [d] sound of the word 'and' in the phrase 'you and me' [ju ənmi], isn't usually pronounced in this phrase.

- The same thing with the stop [d] in Friendship [frɛn ʃɪp]

- In consonant clusters, especially in coda position, /t/ is a common casualty in this process, as in the typical pronunciation [æspɛks] for aspects, or in [himəsbi] for the phrase 'he must be'.

STUDY QUESTIONS

1. What is the difference between a phoneme and an allophone?

2. What is an aspirated sound and which of the following words would normally be pronounced with one: *kill, pool, skill, spool, stop, top*?

3. Which of the following words would be treated as minimal pairs?

➢ *ban, fat, pit, bell, tape, heat, meal, more, pat, tap, pen, chain, vote, bet, far, bun, goat, heel, sane, tale, vet*

4. What is meant by the phonotactics of a language?

5. What is the difference between an open and a closed syllable?

6. Which segments in the pronunciation of the following words are most likely to be affected by elision?

(i) *government* (ii) *postman* (iii) *pumpkin* (iv) *sandwich* (v) *victory*

THANK YOU