Lecture 01: *Introduction to Phonetics and Phonology*

Objectives: This lesson aims to introduce the notions of phonetics and phonology. By the end of the lesson, students will be able to distinguish between the two and identify the three types of phonetics.

Phonetics and phonology are two branches of linguistics that are concerned with the study of human speech sounds. Both of them describe and analyse speech sounds but from different perspectives.

1. Phonetics

Phonetics can be defined as the study of human speech sounds as a physical phenomenon without reference to their systematic role in a specific language, i.e. it deals with and focuses on the physical nature of speech sounds rather than their meanings, the order in which they are placed or any other factor.

It is as Catford (2001) et al. define, the part of linguistics that is concerned with the study of **human speech sounds** from the point of their production, transmission, and perception (Catford, 2001; Cruttenden, 2001, 2008; Crystal, 2008; Gimson, 1980).

According to the aforementioned definition, three key aspects, that constitute the core of phonetics, can be raised: a) Sounds, b) Speakers; c) Speech

The first aspect delineates that our study will focus on describing, transcribing, and practicing sounds. The second limits the study to human sounds (speakers). The third characteristic narrows the scope of phonetics to sounds of speech. This means that humans can produce sounds not categorized as "speech sounds", such as yawning, sneezing, cough, or interjections (Kenworthy, 1997; O'Corner, 1980; Ogden, 2009).

2. Phonology:

It is concerned with the regularities in the sound patterns that speakers of a particular language produce in order to communicate effectively. It focusses on how speech sounds are understood in a given language, i.e. it deals with the speakers' knowledge of the sound system of a language.

While phonetics is the basis for phonological analysis, phonology is the basis for further work in morphology, syntax, discourse, and orthography design.

- ***The Phoneme*** *is the smallest, contrastive, functional unit in the sound system of a language, i.e. it is a minimal unit of sound that serves to distinguish*

meanings.

Example: /b/ and /p/ in <bit> and <pit> respectively are phonemes (because as one replaces the other in this minimal pair meaning changes)

- ***The Allophones** is a phonetic variant of the phoneme. It is the realisation of the phoneme.*

  Example: [p] and [p^h] are two allophones of the phoneme /p/ ([p] is found after alveolar, fricative consonant /s/ like in <spy> while [p^h] in initial position before a vowel sound <pie>.) [$sp^h aɪ$] still means <spy> [spaɪ] despite the phoneme [p] is mispronounced.

3. Types of Phonetics

a) **Articulatory phonetics:** It focuses on the study of sounds from the corner of their articulation. It describes how the speech organs are used in order to produce, or articulate, speech sounds.

This type examines the major aspects of speech production:

- Mechanism and direction of airstream
- The state of the glottis: whether the vocal cords are open (separated), or vibrating
- The state of the velum (whether lowered or raised) can direct the air to nasal or oral cavities
- The position of the tongue with reference to the organs of speech

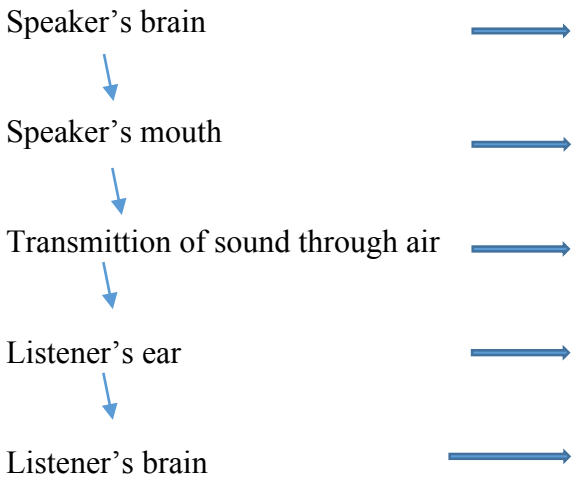
b) **Acoustic Phonetics:** It studies the physical properties of speech sounds, i.e, the way in which the air vibrates as sounds pass from speaker to hearer. This type deals with speech as sound waves transmitted in the air between the speaker and hearer.

c) **Auditory Phonetics:** It is concerned with the perception of sounds by the hearer.

Exercises

1. How do phoneticians and phonologists deal with the sounds of a language? What are the the major differences between them?
2. The speech chain below illustrates the stages of human speech sounds. Complete the chain with the linguistic branch that is supposed to deal with each stage.

The speech chain



3. What are minimal pairs ? Identify the minimal pairs in the list of words below.
   pat – pen – more – heat – tape – bun – fat – ban –
   tale – bell – bit – meal – vote – bet – pit – heel .
4. Why is the phoneme defined as a contrastive functional unit ?
5. What differences can you draw between phonetic transcription and phonemic transcription?