

# Phonetics

**A branch of linguistics , which deals with the characteristics of speech sounds .**

**It describes the nature of the raw noises and silences of speech.**

**It may be subdivided into articulatory phonetics , acoustic phonetics , and auditory phonetics,**

# PHONETICS

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graph TD; A[PHONETICS] --- B([Articulatory]); A --- C([Acoustic]); A --- D([Auditory]);
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**Articulatory**

**Acoustic**

**Auditory**

**(a) Articulatory phonetics** : deals with the production of sounds by the organs of speech .

- **(b) Acoustic phonetics**: deals with sound waves and the sub-branch of phonetics ,which uses instruments in the analysis of sound features ,is called instrumental phonetics or experimental phonetics .
- **(c) Auditory phonetics** : deals with the reception and perception of sounds and hearing , and also deals with such questions as how do we perceive and recognize different speech sounds.

# Phonetic Symbols

The symbols used here are those of the International Phonetic Alphabet (IPA) 1993, as standardized in Daniel Jones 15th Edition of the English Pronouncing Dictionary Edited by Peter Roach & James Hartman

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## VOWELS

Symbol	Key Word
/ i: /	Sheep
/ i /	Ship
/ e /	Bed
/ æ /	Bad
/ ɑ: /	Calm
/ ɒ /	Pot
/ ɔ: /	Saw
/ u /	Put
/ u: /	Boot
/ ʌ /	Cut
/ ɜ: /	Bird
/ ə /	China

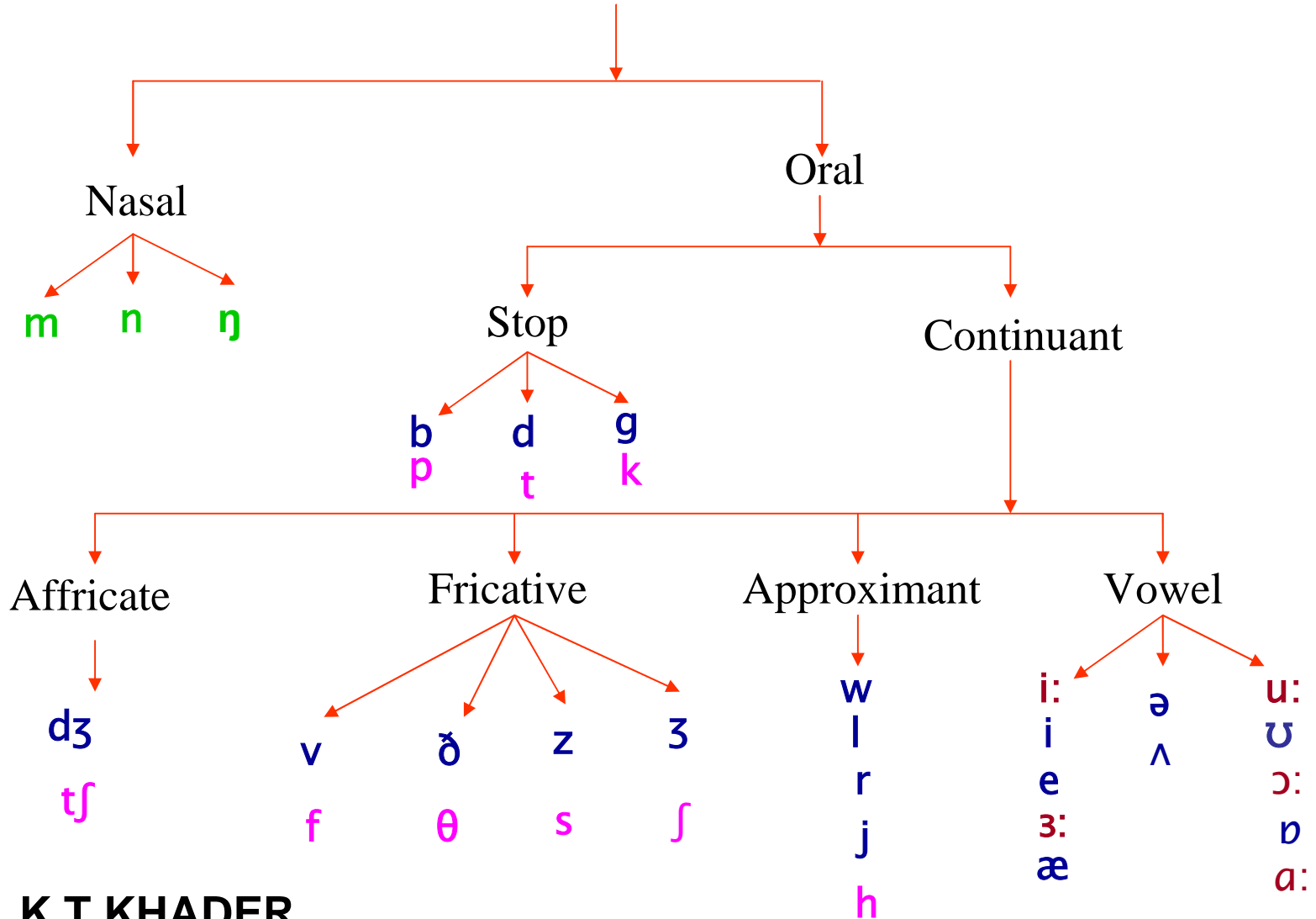
## DIPHTHONGS

Symbol	Key Word
/ eɪ /	Make
/ əʊ /	Note
/ aɪ /	Bite
/ aʊ /	Now
/ ɔɪ /	Boy
/ ɪə /	Here
/ eə /	There
/ ʊə /	Tour

# CONSONANTS

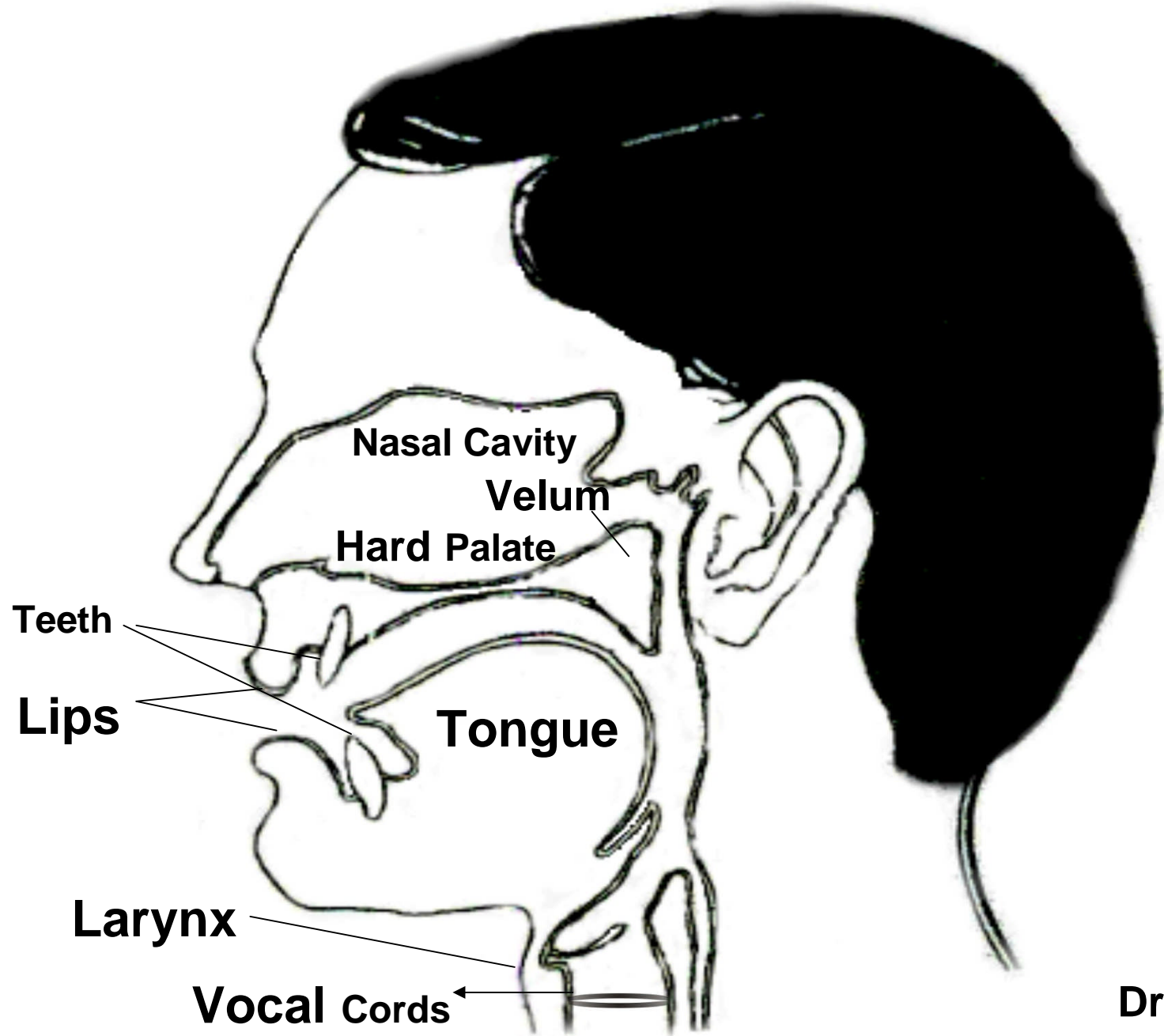
Symbol	Key Word	Symbol	Key Word
/ p /	<i>pen</i>	/ s /	<i>soon</i>
/ b /	<i>back</i>	/ z /	<i>zero</i>
/ t /	<i>tea</i>	/ ʃ /	<i>fish</i>
/ d /	<i>day</i>	/ ʒ /	<i>pleasure</i>
/ k /	<i>key</i>	/ h /	<i>hot</i>
/ g /	<i>get</i>	/ m /	<i>come</i>
/ tʃ /	<i>cheer</i>	/ n /	<i>sun</i>
/ dʒ /	<i>jump</i>	/ ŋ /	<i>sung</i>
/ f /	<i>fat</i>	/ l /	<i>led</i>
/ v /	<i>view</i>	/ r /	<i>red</i>
/ θ /	<i>thing</i>	/ j /	<i>yet</i>
/ ð /	<i>then</i>	/ w /	<i>wet</i>

# The Sounds of English



# Organs of Speech

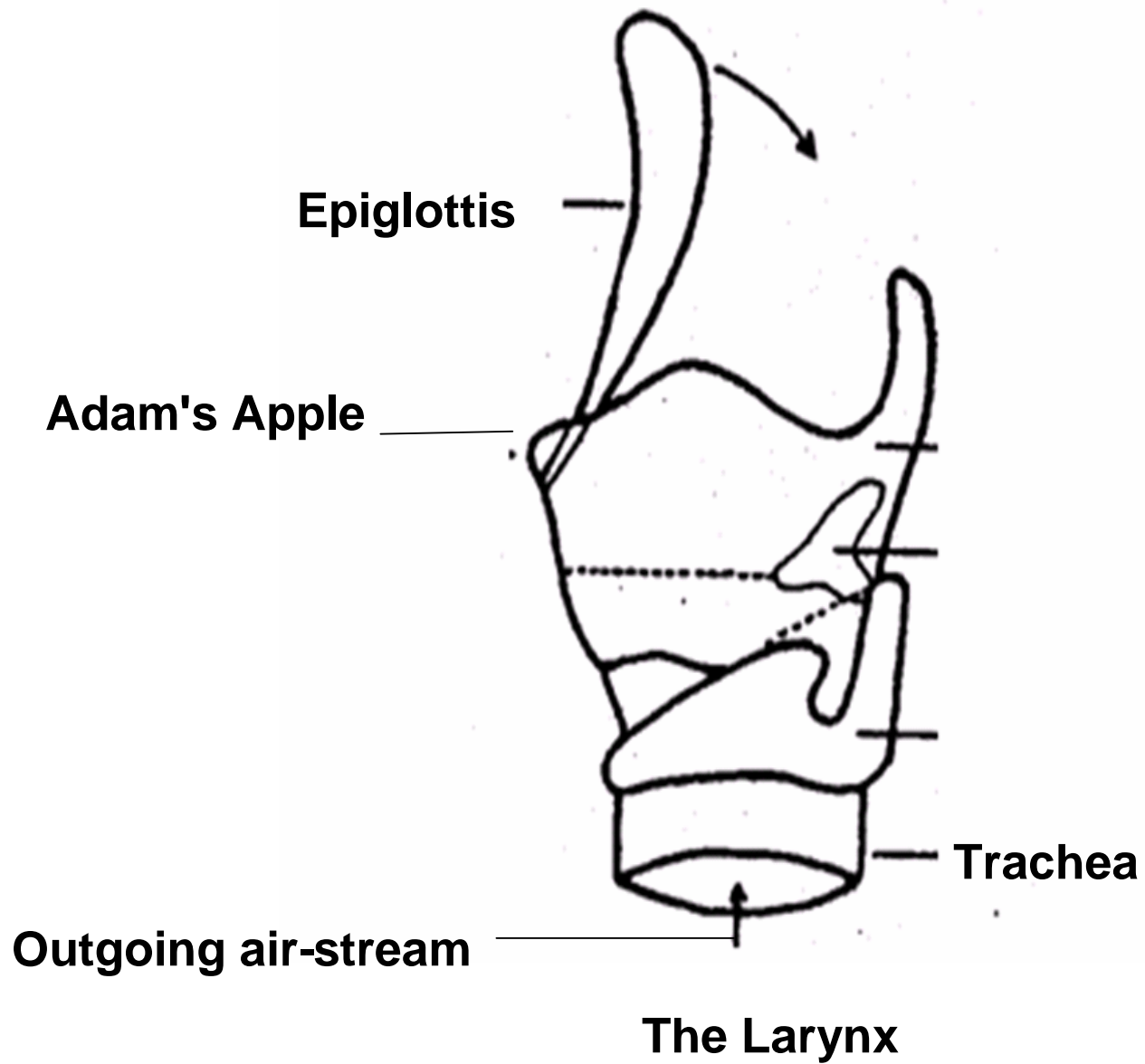
- The term organs of speech refers to those parts of the human body which are concerned in various ways with the production of speech.
- The organs of speech indicated on figure 1 can be divided into two major categories: mobile (which can move) and immobile (which cannot move). Mobile speech organs include the lips, the teeth, the tongue, the lower jaw and the velum (soft palate); immobile speech organs are the larynx, the pharynx, the hard palate, and the alveolar ridge. In speech, mobile organs always move toward immobile ones .



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# The Larynx

- It is situated at the top of the windpipe (trachea) so that all air passing in and out of the lungs must pass through it. The larynx plays an important role in the production of speech. It is known as Adam's apple. What makes the larynx a very important speech organ is that it contains the vocal cords and the glottis .



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# The Vocal Cords

- They are situated in the larynx; two elastic tissues which resemble two lips. In normal breathing, the vocal cords are open; in whispering, they are tightly closed, but the lower end is open. When the vocal cords are open, the air passes freely through them and therefore they do not vibrate. The sounds produced in this way are called voiceless. If the cords are held tightly together, they vibrate as the air forces its way through them. The sounds produced in this way are called voiced



**Tightly closed**



**Wide Open**



**Vibrating**

Figure 4

States of the vocal  
Cords

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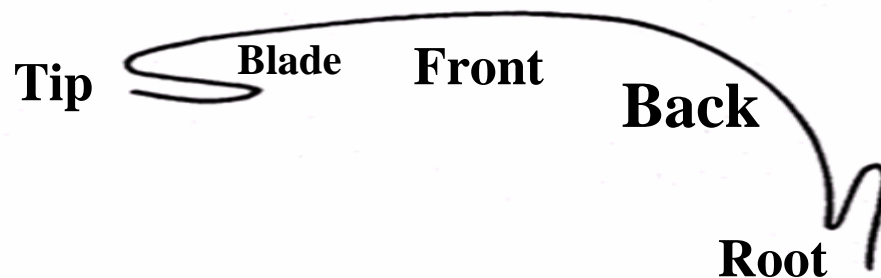
# The Soft Palate

- It is located at the back of roof of the mouth. The soft palate, also called the velum, can be moved up to block the passage into the nose. The air from the lungs has to come out through the mouth only, in this way are called oral sounds. All English sounds except /m, n, ŋ / are oral sounds. If the soft palate is lowered the air from lungs comes out through the nose only. Sounds are produced in this manner are called nasal sounds. English has three nasals /m, n, ŋ/ while Arabic has two /m,n/.

# The Tongue

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- The tongue is the most mobile articulator of the organs of speech. It is involved with other articulator of the organs in the production of both vowels and consonants.



**Figure 5 : Sub-divisions of the tongue**

# The Teeth

- A part of the mouth which plays some important roles in speech. We use the upper teeth only in producing speech sounds. This happens for some English pronunciation of / θ / , / ð / and /f/, /v/.

# The Lips

- Both lips are active articulators. The position of lips affects very considerably the shape of the total cavity. The shape of the lips is very important. It is usually distinguished into four types:
- **Spread position:** no friction is heard with a medium lowering of the lower jaw as in the /i:/ in see.
- **Neutral position:** relaxed position with a medium lowering of the lower jaw as in the vowel /e/ in get.
- **Open position:** a position in which lips are held relatively wide and open as in the vowel /a:/ in part, car.
- **Close-rounded position:**
- The lips are formed like a small round circle. As in the vowel /u:/ in boot, soon.

# Close Lip-rounding

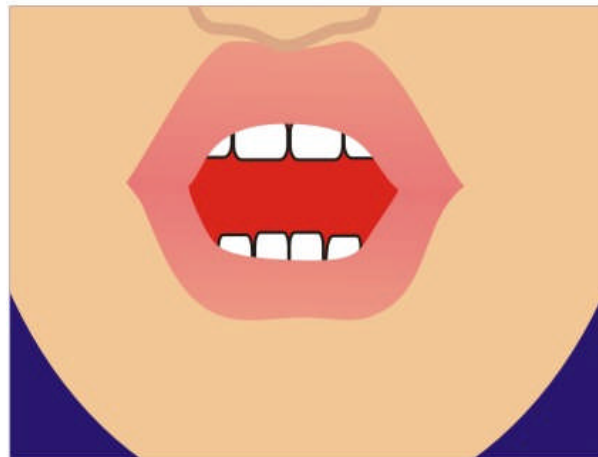
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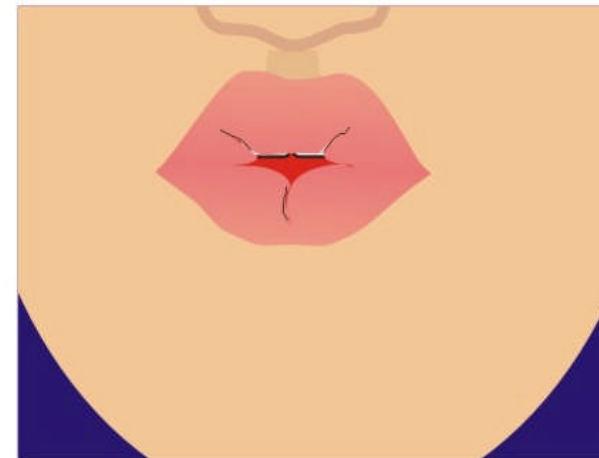
**Close Lip-spreading**



**Neutral Lip-position**



**Open Lip-rounding**



**Close Lip-rounding**

# Phonology

- Phonology is the study of the organization of the units of the sounds of speech into syllables and other larger units. It is the study and description of the patterning of the noises and silences of speech in regular ways within particular languages .

# What is sound ?

- A phoneme = A sound
- How and why is one sound different from the other sound ?
- These are the subject –matter of phonology
- English phonology is a description of the sounds of English and their relationship and contrasts each other.

- Phonology can be described as the study of the sound patterns of languages or the pronunciation pattern of speakers .
- Phonological differences can signal differences at several levels of language .

Differences in:

- **lexical meaning** ; the difference between *pen* and *pin* and between *pen* and *pan* .
- **Grammatical meaning** ;  
the difference between verb use and the noun use e.g.

Present , present  
Conduct , conduct

- **Utterance meaning** ;  
The difference between a statement and question can be indicated by a falling voice at the end of an utterance, as in (a), whereas a rising , as in (b), indicates questioning :

(a) He left .      (b) He left ?  
John                      John ?

# What is the difference between phonetics and phonology ?

- Generality and particularity

Phonetics is the science of speech sounds .

Phonology is the study of vocal sounds in a particular language .

Phonetics =world =all the lgs. of the world (concerned with speech sounds without reference to their function in a particular lg.)

Phonology = country (concerned with working or functioning of speech sounds in a language or languages )