

# **Phoneme as a unit of language**

# Phonology

- The branch of phonetics that studies the linguistic function of consonant and vowel sounds, syllabic structure, word accent and prosodic features, such as pitch, stress and tempo

# Function

- discriminatory function
  - the role of the various elements of the language in the distinguishing of one sequence of sounds, such as a word or a sequence of words, from another of different meaning.
- function of phonetic units
  - their role in the formation of syllables, words, phrases and even texts.

# History

## I.A.Baudouin-de-Courtenay

- introduced functional or social aspect of phonetic phenomena

## N.S.Trubetskoy

- declared phonology to be a linguistic science
- limited articulatory and acoustic phonetics to anatomy, physiology and acoustics only.
- This conception is shared by many foreign linguists → investigate the material form and the function of oral speech units separately.

# Soviet linguists

- language being the man's medium of thought can exist only in the material form of speech sounds
- phonology a branch of phonetics that investigates its most important social aspect.

# “Sound”

can be interpreted in two rather different ways.

- [t] and [d] are two different sounds

[t] – fortis and [d] – lenis

*tie - die, seat - seed*

- [t] in *let us* and [t] in *let them* → the two sounds are also not the same,  
[t] of *let us* is alveolar, while the [t] of *let them* is dental.

# “Sound”

- In both examples the sounds differ in one articulatory feature only
- in the second case the difference between the sounds has functionally no significance.
- It is perfectly clear that the sense of "sound" in these two cases is different.

- "**phoneme**" is used to mean "sound" in its contrastive sense
- "**allophone**" is used for sounds which are variants of a phoneme:  
they usually occur in different positions in the word (i.e. in different environments) and hence cannot contrast with each other, nor be used to make meaningful distinctions.



# Phoneme

- a functional, material and abstract unit (L.V. Shcherba)
- a dialectical unity of these aspects because they determine one another and are thus interdependent (V.A. Vassilyev)

# Phoneme

- a minimal abstract linguistic unit realized in speech in the form of speech sounds opposable to other phonemes of the same language to distinguish the meaning of morphemes and words.

# Phoneme

from the point of view of its three aspects:

- functional,
- material,
- abstract

# Firstly,

- the phoneme is a functional unit:

*discriminatory function*

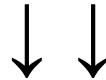
the role of the various components of the phonetic system → in distinguishing one morpheme from another, one word from another or also one utterance from another.

# The **distinctive** function

- The opposition of phonemes in the same phonetic environment differentiates the meaning of morphemes and words: e.g. *said – says, sleeper – sleepy, bath – path, light – like.*
- Sometimes the opposition of phonemes serves to distinguish the meaning of the whole phrases: *He was heard badly - He was hurt badly.*

# Secondly,

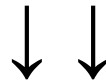
- the phoneme is **material, real** and **objective** → it is realized in speech in the form of speech sounds, its allophones.
- The phonemes constitute the material form of morphemes



**constitutive** function

# Thirdly,

- the phoneme is a material and objective unit as well as an abstract and generalized one at the same time
- the use of the right allophones and other phonetic units facilitates normal recognition



**recognitive** function

# Types of allophones and the main features of the phoneme

The sets of speech sounds → the allophones belonging to the same phoneme

- are not identical in their articulatory content
- though there remains some phonetic similarity between them.



# English phoneme [d]

- When not affected by the articulation of the preceding or following sounds [d] is a plosive, forelingual apical, alveolar, lenis stop: door, darn, down, In this case the consonant [d] is called the **principal** allophone.
- The allophones which do not undergo any distinguishable changes in the chain of speech are called **principal**.

# English phoneme [d]

- At the same time there are quite predictable changes in the articulation of allophones that occur under the influence of the neighbouring sounds in different phonetic situations. Such allophones are called **subsidiary**.

# English phoneme [d]

- [d] is slightly palatalized before front vowels and the sonorant [j], e.g. *deal, day, did, did you*
- [d] is pronounced without any plosion before another stop, e.g. *bedtime, bad pain, good dog*
- [d] it is pronounced with the nasal plosion before the nasal sonorants [n] and [m], e.g. *sudden, admit, could not, could meet;*
- the plosion is lateral before the lateral sonorant [l], e.g. *middle, badly, bad light.*

- [d] becomes post-alveolar followed by [r], e.g. *dry, dream*;
- [d] becomes dental followed by the interdental [θ], [ð], e.g. *breadth, lead the way, good thing*.
- When [d] is followed by the labial [w] it becomes labialized, e.g. *dweller*.
- In the initial position [d] is partially devoiced, e.g. *dog, dean*; in the intervocalic position or when followed by a sonorant it is fully voiced, e.g. *order, leader, driver*; in the word-final position it is voiceless, e.g. *road, raised, old*.

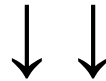
- **Consequently, though allophones of the same phoneme possess similar articulatory features they may frequently show considerable phonetic differences.**

# Allophones

- are arranged into functionally similar groups → groups of sounds in which
- the members of each group are not opposed to one another,
  - are opposable to members of any other group to distinguish meanings in otherwise similar sequences.

# Allophones

- Consequently allophones of **the same phoneme** never occur in similar phonetic contexts, they are entirely predictable according to the phonetic environment,



carry no useful information

**they cannot differentiate meanings**

# English phoneme [ɫ]

- the dark [ɫ] occurs following a vowel as in *pill*, *cold*, but it is not found before a vowel
- whereas the clear [l] only occurs before a vowel, as in *lip*, *like*.

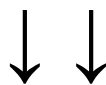


These two vowels cannot contrast with each other in the way that [l] contrasts with [r] in *lip* - *rip* or *lake* - *rake*

there are no pairs of words which differ only in that one has [ɫ] and the other - [l].



- The function of phonemes is to distinguish the meaning of morphemes and words.
- Native speakers abstract themselves from the difference between the allophones of the same phoneme because it has no functional value



do not realize that [d] is alveolar in *dog*, in *dry* it is post alveolar, in *breadth* it is dental

# Allophones of each phoneme

possess a bundle of distinctive features, that makes this phoneme functionally different from all other phonemes of the language concerned.

- This functionally relevant bundle of articulatory features is called the **invariant** of the phoneme.
- Neither of the articulatory features that form the invariant of the phoneme can be changed without affecting the meaning.

# All the allophones of the phoneme [d]

- are occlusive, forelingual, lenis.
- If occlusive articulation is changed for constrictive one →

[d] will be replaced by [z]

*breed - breeze, deal - zeal*

- [d] will be replaced by [g] if the forelingual articulation is replaced by the backlingual one,

*dear – gear, day- gay*

- The lenis articulation of [d] cannot be substituted by the fortis one because it will also bring about changes in meaning,

*dry - try, ladder - latter, bid - bit.*

That is why it is possible to state that occlusive, forelingual and lenis characteristics of the phoneme [d] are generalized in the mind of the speaker into what is called the invariant of this phoneme.

# Distinctive or relevant articulatory features

- To extract relevant feature of the phoneme we have to oppose it to some other phoneme in the same phonetic context.
- If the opposed sounds differ in one articulatory feature and this difference brings about changes in the meaning of the words the contrasting features are called **relevant**.

- the words *port* and *court* differ in one consonant only



initial consonant [p] and [k]

Both sounds are occlusive and fortis, the only difference being that [p] is labial and [k] is backlingual.

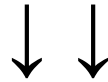


labial and backlingual articulations are relevant in the system of English consonants



# **Non-distinctive, irrelevant or redundant articulatory features**

- do not serve to distinguish meaning  
an aspirated [p] ↔ a non-aspirated [p]



aspiration is a non-distinctive feature of  
English consonants

# Mistakes in the articulation

L.V. Shcherba:

pronunciation errors →

- **phonological**
- **phonetic**

# Phonological mistake

- If an allophone of some phoneme is replaced by an allophone of a different phoneme → the meaning of the word is inevitably affected.

the vowel [i:] in the word *beat* becomes slightly more open, more advanced or is no longer diphthongized

*beat* → quite a different word *bit*.

# Phonetic mistake

- If an allophone of the phoneme is replaced by another allophone of the same phoneme.
- It happens when the invariant of the phoneme is not modified and consequently the meaning of the word is not affected.