

# Introduction into Theoretical Phonetics

# Lecture 1 “Phonetics as a Branch of Linguistics”

- **1. Theoretical phonetics as a science**
- **2. Branches and Divisions of Phonetics.**
- **3. Methods of Phonetics.**
- **4. Phonetics and Other Disciplines.**
- **5. Phonetics vs Phonology.**

# References:

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# 1. Theoretical phonetics as a science

## Practical or normative phonetics

- studies the substance, the material form of phonetic phenomena in relation to meaning.

## Theoretical phonetics

- is mainly concerned with the functioning of phonetic units in the language. It regards phonetic phenomena synchronically without any special attention paid to the historical development of English

# Definition of theoretical phonetics (TP)

- **The term phonetics comes from the Greek word φωνή (phōnē) meaning *sound, voice***
- Phonetics is the science that “studies the sound system of the language, that is segmental **phonemes**, word **stress**, syllabic **structure** and **intonation**” (Sokolova & others, 2004).

# The origin of Phonetics



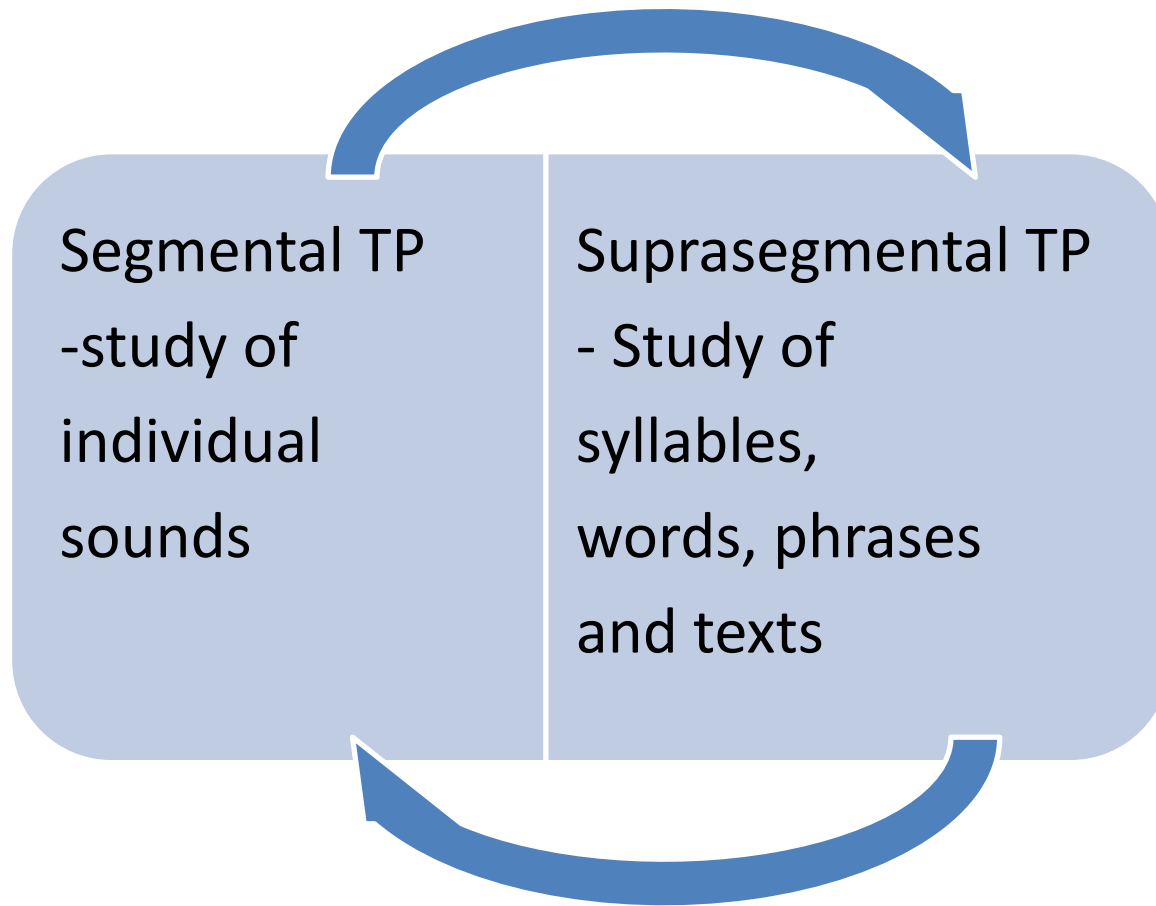
**Baudouin de Courtenay (1845-1929)**

was the first one who introduced the term phonology, as the science of purely linguistic (functional) aspect of speech sounds, opposed to anthropophonics (the proper phonetics in modern terms).

# Theoretical phonetics

- studies only such sound sequences, which are produced by a human vocal apparatus, which are carriers of organized information of language and which are meaningful

# 2 basic aspects of TP





# What is 'norm' in English phonetics?

What do we imply for the term 'norm'?

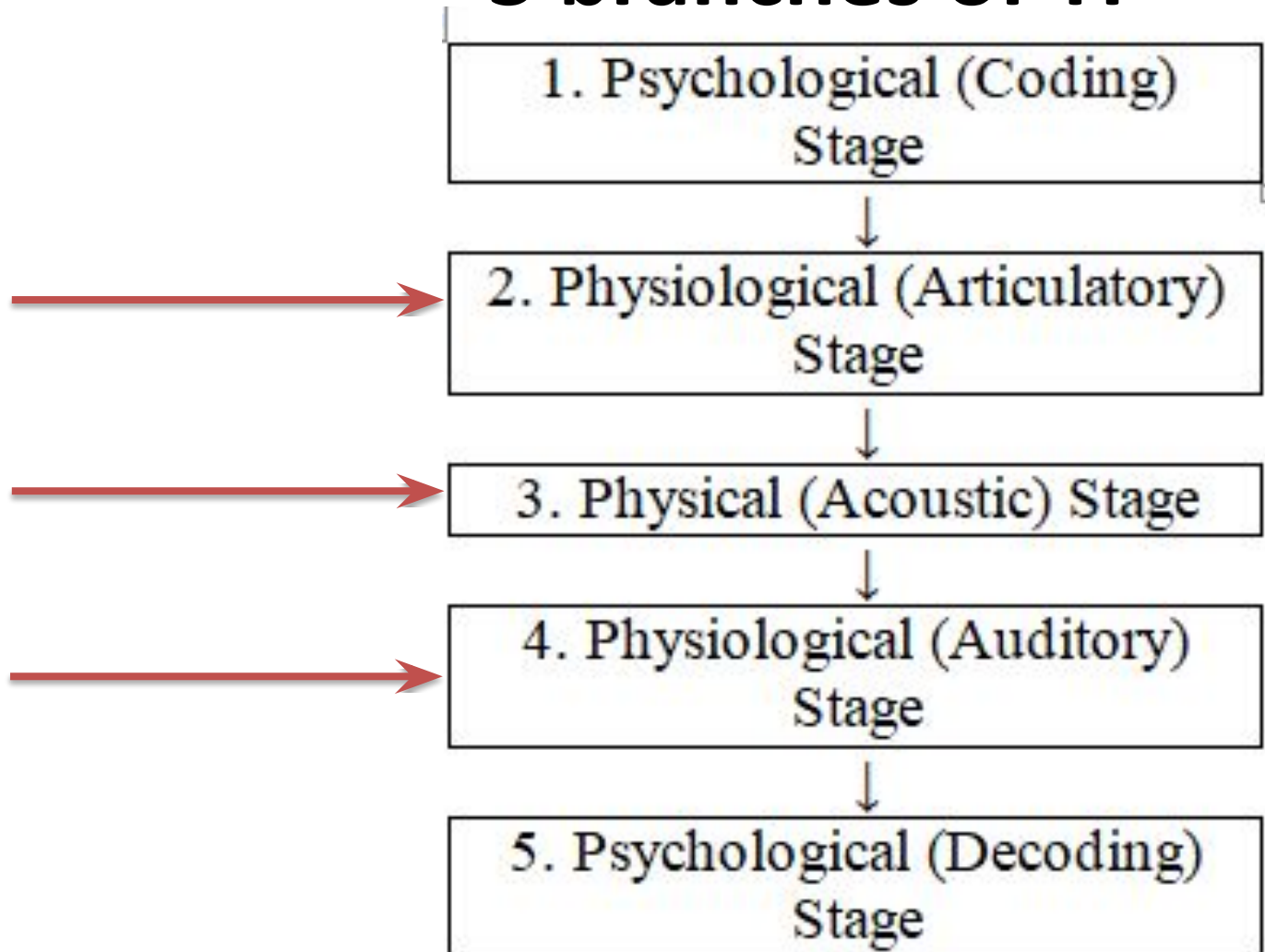
# A norm in English phonetics

- 'Norm' is a "neutral" style.
- 'Norm' is a complex of all functional style  
(Y. Screebnev)
- Norm = Received Pronunciation\*

*\* The standard form of British English pronunciation, based on educated speech in southern England, widely accepted as a standard elsewhere*

## 2. Branches and divisions of TP

### 3 branches of TP



# Articulatory phonetics

- is the branch of phonetics “which is concerned with the study, description and **classification of speech sounds** as regards their production by the human speech apparatus” (Y. Vassilyev, 1970)
- the most productive, developed and the oldest branch of phonetics.

# Acoustic phonetics

- is the branch of phonetics that studies the **physics of the air vibrating** between the mouth of the speaker and the ear of the hearer and producing sound waves of different character and acoustic effect, i.e. different speech sounds. “From acoustic point of view, a speech sound, like any other sound in nature, is a physical phenomenon, a kind of moving matter and energy” (Y. Vassilyiev, 1970).

# Auditory phonetics

- is the branch of phonetics which main concern is the investigation of the **hearing process**. At present time it mainly deals with the brain activity rather than with the physiological process of signal delivery and transfer through the nervous system of the hearer.

# \* BRANCHES OF PHONETICS



## PHYSIOLOGICAL OR ARTICULATORY

/ ARTICULATORY  
ASPECT/

/relating to the formation  
of speech sounds/  
STUDIES SOUNDS FROM  
THE POINT OF VIEW OF  
THEIR ARTICULATION  
AND IN CONNECTION  
WITH THE ORGANS  
OF SPEECH BY WHICH  
THEY ARE PRODUCED

## ACOUSTIC OR AUDITORY

/ AUDITORY  
ASPECT/

ACOUSTIC PROPERTIES  
OF SOUNDS, THAT IS  
QUANTITY OR LENGTH,  
TAMBER, INTENSITY,  
PITCH

## PHONOLOGICAL OR FUNCTIONAL

/LINGUISTIC OR SOC  
ASPECT/

# Segments of phonetics

General phonetics

Historical phonetics

Comparative phonetics

Theoretical phonetics

Experimental phonetics



# General phonetics

- **is a section studying all the sound-producing possibilities of human speech apparatus (organs) in various languages of the world.**

# Historical phonetics

- is a section that traces and establishes the successive changes in the phonetic system of a given language or a language family at different stages of its historical development.

# Comparative phonetics

- studies the correlation between the phonetic systems of two or more languages, especially kindred ones.
- For example, it is the comparative phonetics that tells us that to every initial prevocalic [z] of Modern German there corresponds the consonant [s] in Modern English: *senden* – *send*, *silber* – *silver*, *Saltz* – *salt*, *singen* – *sing*, *Seite* – *side*.

# Theoretical phonetics

- deals with theoretical problems of a particular language. It gives students the latest theories and views on many phonetic problems. It describes some moot points (debatable issues) in a particular language.

# Experimental phonetics

- is a section that studies various phonetic phenomena in the laboratory conditions by means of all sorts of devices. It has gained far-reaching results in the last two decades.

# 3. Methods in Phonetics

- **1) direct observation method;**
- **2) experimental method;**
- **3) instrumental methods;**
- **4) method(s) of phonological analysis.**

# The direct observation method

- is the method of observing the facts of a language in their natural surrounding. In phonetics it comprises three important modes: observation by **ear**, by **sight** and by **muscular sensation**. The method can be effectively employed only if a researcher has been specially trained to differentiate between “the minutest movements of their own and other people’s speech organs, and to distinguish the slightest variations in sound quality” (Dickushina, 1965 : 16).

# The experimental method

- is the method of obtaining data and facts of a language through constructing and modelling special **artificial conditions**.
- in Russian the sequence of /st/ and /n/ divided by morphological boundary is pronounced as /sn/ (let us schematically represent this as: /st/+<sub>⊥</sub>+/n/=/sn/) - *честный, местный, возрастной* – here no phoneme /t/



# Instrumental methods

- are sometimes called experimental, which is not quite correct because, on the one hand, an experiment can be implemented without any tool or apparatus and, on the other hand, the usage of a technical device does not obligatory imply an experiment.

# The method(s) of phonological analysis

- (sometimes called proper linguistic method or functional method of phonetics) includes the distributional method, the statistical method, the method of minimal pairs (semantic method, commutation test, method of substitution).

## **4. Phonetics and Other Disciplines**

**What are the branches of other linguistic study where Phonetics can be connected with?**

# Phonetics and Grammar

**1) the differences in pronunciation of morpheme -ed after voiced and voiceless consonants in past forms of verbs:**

- [d] after voiced consonant
- [t] after voiceless consonants
- beg – begged [d], clog – clogged [d]
- stop – stopped [t]; knock – knocked [t]

# Phonetics and Grammar

**2) the differences in pronunciation of root consonants observed in singular and plural forms of nouns:**

- leaf – leaves [**vz**],
- house – houses [**zis**],
- bath – baths [**ðz**]

# Phonetics and Grammar

**3) the vowel interchanges helping to distinguish the singular and plural forms of nouns and the tense forms of irregular verbs:**

## **nouns**

- basis – bases [si:z]
- crisis – crises [si:z]

## **verbs**

- write – wrote - written
- ride – rode – ridden.

# Phonetics and Lexicology

- since the presence of stress in the right place helps to distinguish nouns/adjectives from verbs.
- Homographs may also be differentiated only by pronunciation

## nouns – verbs

an 'accent – to ac'cent

a 'desert – to de'sert

an 'object – to ob'ject

## adjectives – verbs

'separate – to sepa'rate

'predicate – to predi'cate

graduate – to graduate

## homographs

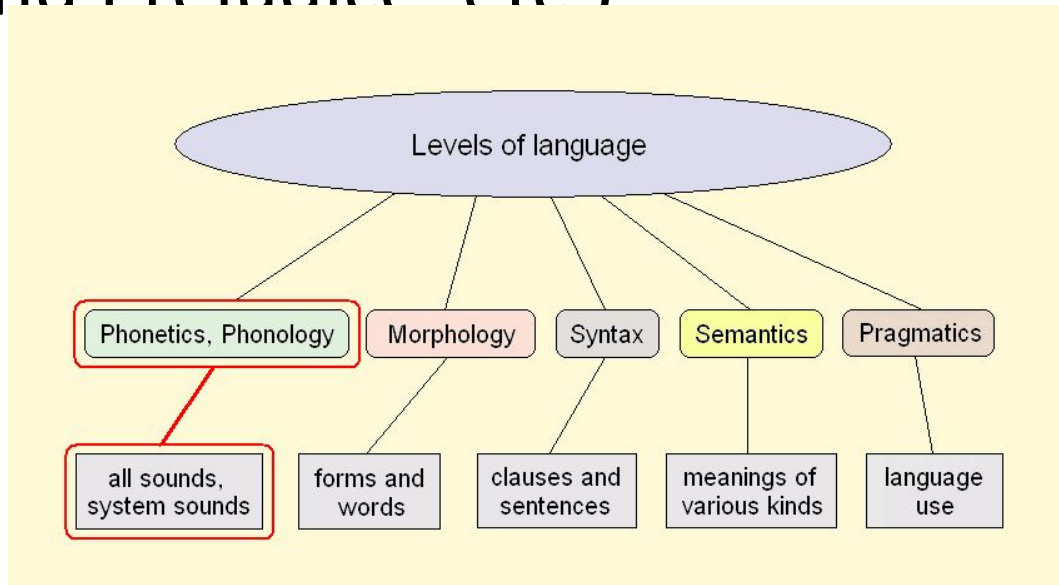
row [rau] – row [rəu]

lead [li:d] – lead [led]

wind [wɪnd] – wind [wænd].

# Theoretical phonetics and Stylistics

- Intonation patterns (the purpose of the utterance)
- Rhythm and rhyme
- Alliteration and assonance (Coca-Cola, M&Ms, Pride and Prejudice etc )





# 5. Phonetics vs Phonology

- The field of science that studies phonemes is called **phonology** (the term **phoneme** is said to be coined in **1873** by the French linguist **A. Dufriche-Desgenettes**).

- The field of science that studies the 'codes' of phonemes, the meaning of the sounds.

# Various views on Phonetics and Phonology

- **“Phonetics has two main divisions; on the one hand, phonology, the study of the sound patterns of languages, of how a spoken language functions as a ‘code’, and on the other, the study of substance, that carries the code” (Sokolova & others, 2004 : 7).**
- **Here phonology is included into phonetics.**

# Traditional view

## Phonetics and Phonology

<b>Phonetics</b>	<b>Phonology</b>
<ul style="list-style-type: none"><li>• Language independent</li><li>• Study of all sounds</li></ul>	<ul style="list-style-type: none"><li>• Language dependent</li><li>• Study of only those sounds that constitute language and meaning</li><li>• Phonology is a subset of phonetics</li></ul>

# Alternative view

## PHONETICS VERSUS PHONOLOGY

Phonetics belong to  
descriptive  
linguistics

Phonology belongs  
to theoretical  
linguistics

Studies the  
production,  
transmission,  
reception of sound

Studies different  
patterns of sounds  
in different  
languages

Does not study  
one particular  
language

Can study one  
specific language

# Distribute into two categories – **Phonetics and Phonology**

- Sounds
- [a:]
- Phonemes
- Stress
- Accommodation
- Assimilation
- 0 reduction
- [p]
- Intonation

# Distribute into two categories

- **Phonetics**

- Sounds
- Phonemes
- [a:]
- [p]

- **Phonology**

- Stress
- Intonation
- Accommodation
- Assimilation
- 0 reduction

**Thank you!**