



THEORETICAL PHONOLOGY



Phonetics

Lecturer:

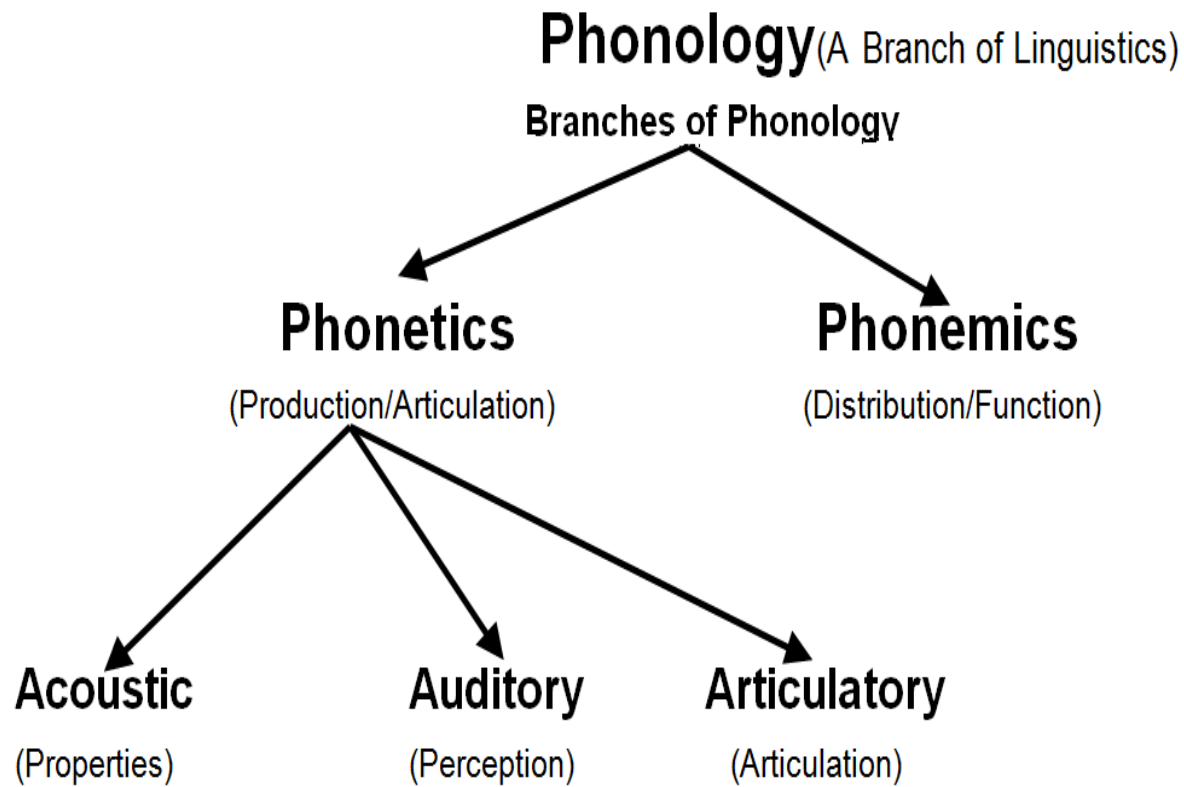
Irina K. Voytovich

The Phoneme

In this lecture:

- What is phonology
- The phoneme: its features and functions
- The flow of speech
- Phonemes, allophones and other variations of speech sounds
- The phonological oppositions theory
- Phonemic inventory and system

Phonology



PHONETICS VS. PHONOLOGY



Nikolay Sergeevich
Trybetskoy

Phonetics is a biological science, and is concerned with the physical and physiological characteristics of speech sounds.

Phonology is a linguistic science, and is concerned with the social functions of different phonetic phenomena. Phonology is a convenient term to indicate that section of phonetics in which the social functions of speech sounds are discussed.

To sum it up:

- Which comes first – the dilemma is still there
- Phonology is strongly connected to the linguistics, relationship to meaning and the function of consonant and vowel sounds, syllabic structure, word accent and prosodic features, such as pitch, stress and tempo

Phonology studies

4 basic theories

- The phoneme theory
- The syllable theory
- The stress theory
- The intonation theory

3 basic functions

- Constitutional
- Distinctive
- Recognitive

Background

The 6 th century BC	Ancient Greek Philosophy
1875	Louis Havet a French Latinist
1878 <i>Memoir</i>	Ferdinand de Saussure a Swiss linguist aged 21
1887	Jan Baudouin de Courtenay a Polish linguist
1912	Lev V. Shcherba a Russian linguist
1929-1939 <i>Principles of Phonology</i>	Nikolai S. Trubetzkoy a Russian linguist

Phoneme: definition

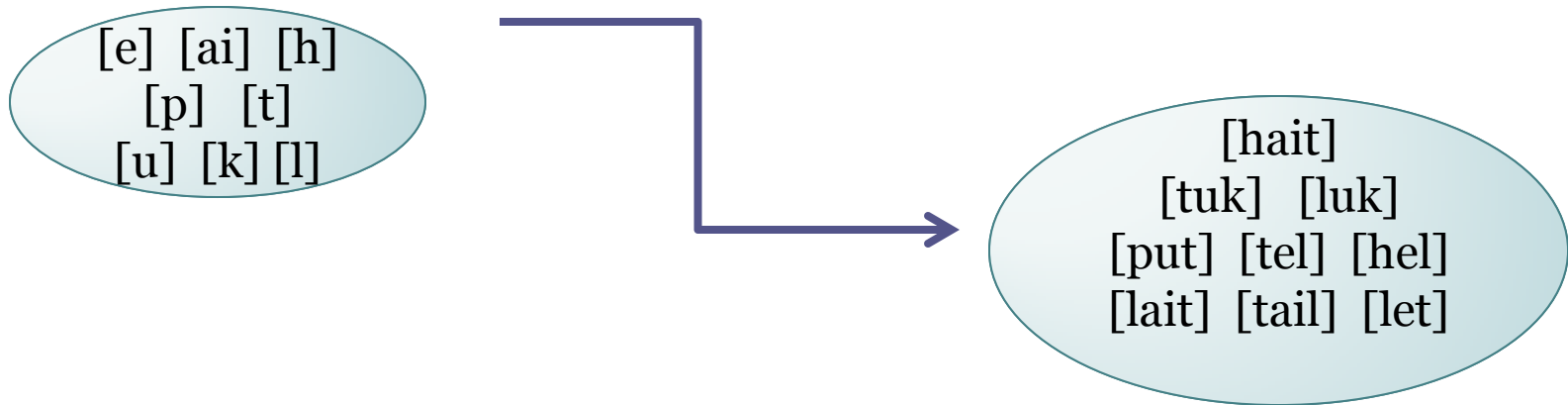
The phoneme is  unit of the sound system of the language.

**the smallest,
linear / segmental
indistinguishable,
independent**



Most important functions of a phoneme

- **Constitutive** - phonemes form the sound shells of significant language units, such as morphemes, words, sentences, paragraphs, texts ...



Distinctive function

Words are distinguished by means of phonemes

[tip] [top] [teip]	[taip] [tail] [mail]
[lip] [lit]	[a:] [ou]

**Phonemes have no meaning
but they are potentially connected with it.**

Recognitive function

To recognize and understand words, we must use the allophones of the phonemes correctly

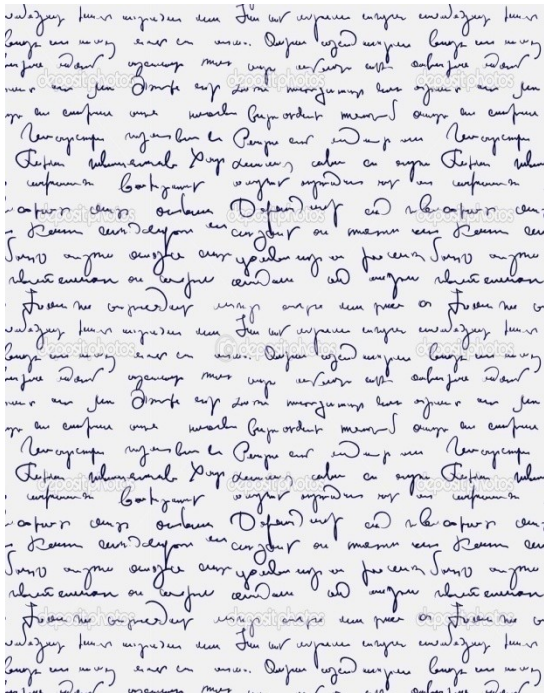


Pride **Bride**

Pie **Buy**

The flow of speech

Written speech



Oral speech

- Neither articulatory nor acoustically is it divided into sounds
- This is a purely linguistic phenomenon



УСТНАЯ РЕЧЬ

- - представляет собой звуковой поток, который распадается на звенья.
- Они (звенья) являются фонетическими единицами языка и следуют один за другим.
- Ими являются:

- ТЕКСТ;
- ФРАЗА;
- РЕЧЕВОЙ ТАКТ (СИНТАГМА);
- ФОНЕТИЧЕСКОЕ СЛОВО;
- СЛОГ.



Black clouds covered the sun

- **Words**

Syntactic function

Morphological structure

Lexical meaning

- **Morphemes**

Lexical meaning

Grammar meaning

- **Sounds**

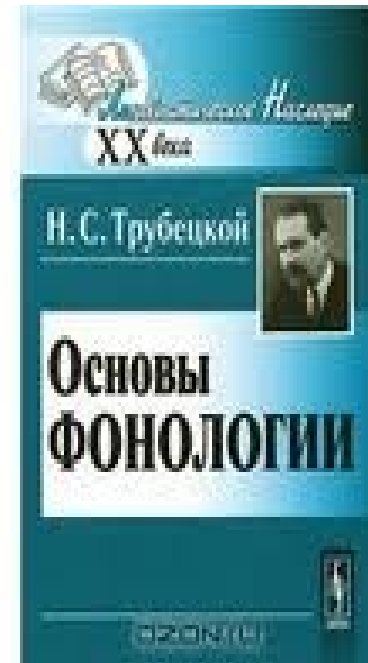
Associative analysis

Minimal pairs

Morphemic juncture



Associative analysis – N. Trubetzkoy



«Principles of Phonology»

- Born 4 (16). 04. 1890 in Moscow
- Died on 25.06. 1938 (aged 48) in Viena
- Linguistic input:
the phoneme theory
structural method
- Comes from aristocratic family
- His father was the rector of Moscow University
- His uncle was a well-known philosopher
- His brother was a writer

There are five phonemes in the word DUTY because we meet them in many other words

This method is based on psychological associations and is very subjective

- [d]
- [j]
- [u:]
- [t]
- [ɪ]

- day dog
- union few Tuesday
- fool cool
- thirty fortress
- pity dusty

Associative analysis week points

- Subjective methods are not reliable
- Different phonemes may be viewed upon as one and the same by nonnative speakers

tin **ten** **tan** **ten** **thirty**

- Compound phonemes like diphthongs can get split and give an effect of two different phonemes

there they now know

Minimal pairs

- Introduced by N. Trubetzkoy in his “Principals of Phonology”, this method of speech flow segmentation became popular the world over.
- It is based on the opposition of phonemes and their ability to distinguish pairs of words in meaning.

Minimal pairs are pairs of words that differ in one sound and have different meaning

tip – tap - top - pin – pen – pan - fan - man – tan – pan

The weak points

- **The number of minimal pairs in the language is limited**
- **You can also get a wrong impression that phonemes are meaningful units of the language**

Listen and Repeat

Minimal Pairs

Quick Review

Lessons 2 - 13

Voice: Charles Kelly

Music: Nine Inch Nails

www.manythings.org

Morphemic juncture

Lev Shcherba, Mauroce Grammont



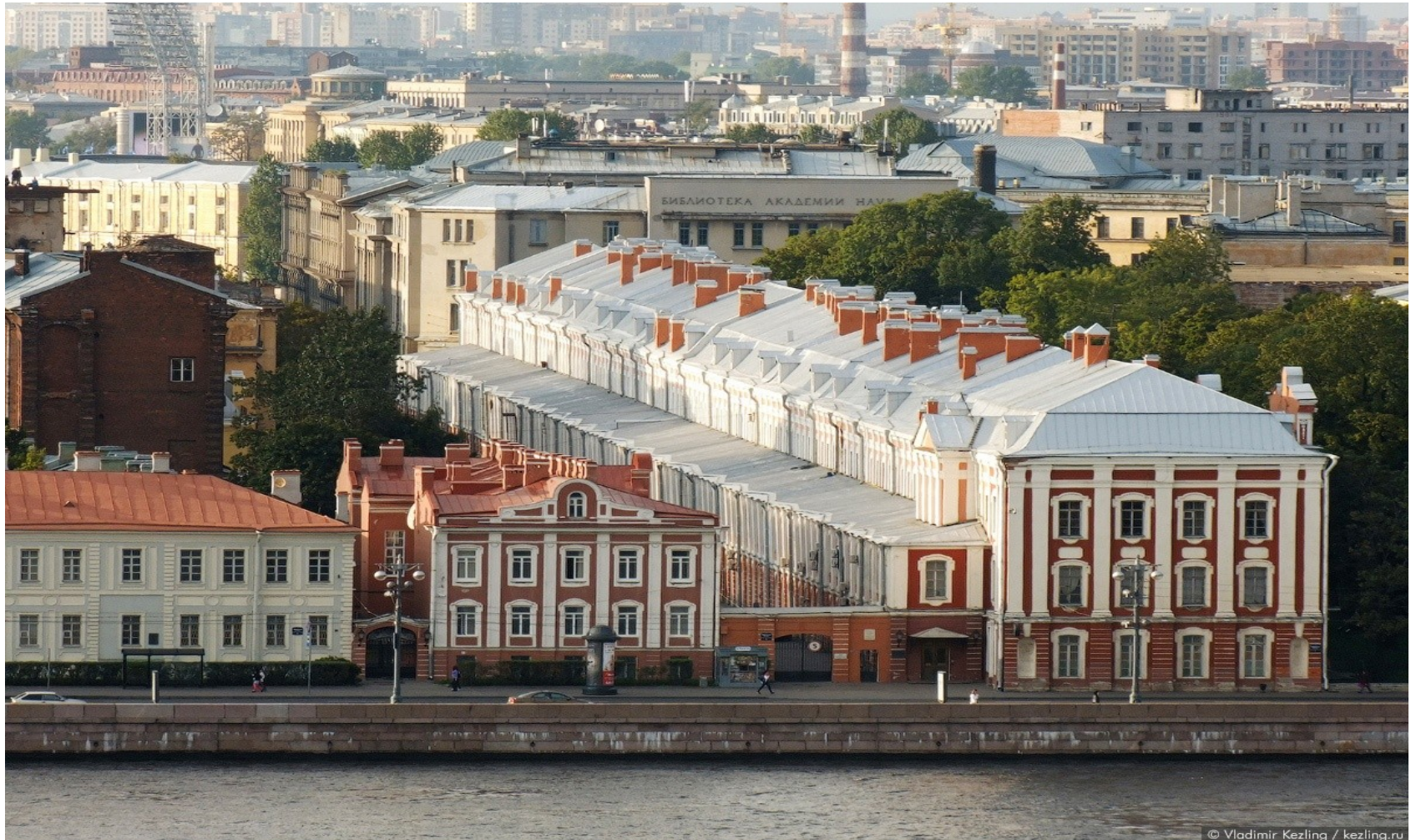
Для любознательных



ЩЕРБА, ЛЕВ ВЛАДИМИРОВИЧ (1880–1944), русский лингвист, специалист по общей лингвистике, русскому, славянским и французскому языкам. Родился 20 февраля (3 марта) 1880 в Петербурге. В 1903 окончил Петербургский университет. В 1916–1941 профессор Петроградского (Ленинградского) университета. Академик АН СССР с 1943. В

Лев Владимирович - автор знаменитой фразы "Глокая куздра штеко будланула бокра и кудрячит бокренка". Это предложение не содержит ни одной лексической морфемы русского языка, но грамматически правильно и обладает определенным смыслом.

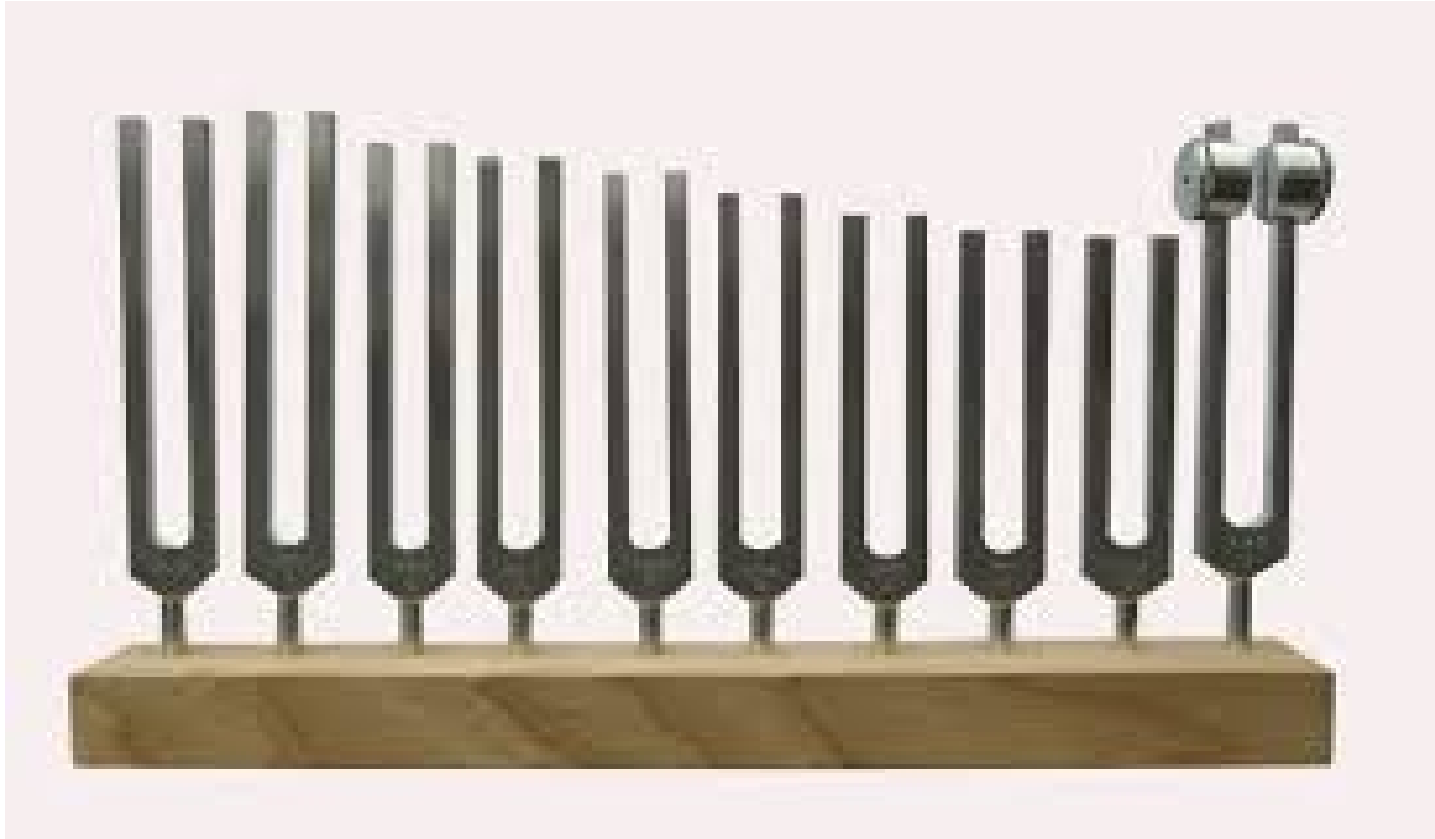
St. Petersburg State University, Dept. of Phonetics



St.Petersburg State University, dpt for phonetics



St.Petersburg State University, dpt for phonetics
Pitchforks



Morphemic juncture

Lev Shcherba, Mauroce Grammont

The method states that:

- The flow of speech segmentation is possible only phonologically but not phonetically.
- Being a non-meaningful unit of the language, the phoneme, nevertheless, is potentially connected with the lexical or grammatical meaning within the morpheme.
- The systematic approach to the language is very important

Morphemic juncture: actor

- If two sounds find themselves on the morphemic juncture, they are divisible: act -or
- The morphemic junctures must exist in the system of the language, not at all in one word: ac-t because of pick-ed
- We will find it difficult to divide ac, so we'll have to look for another method: act-ant.

Morphemic juncture: weak points

- too complicated;
- the number of morphemic junctures is limited even in the language system;
- requires the application of the method of minimal pairs.

The result of the flow of speech segmentation: what is next?

- Which sounds belong to one and the same phoneme?
- Which sounds belong to different phonemes?

The idea of a Distribution - this is what can help

Phonemes, allophones and optional variants

Types of units	Types of distribution
Phonemes	Contrast
Allophones	Complementary
Optional variants	Free variation

The rules:

- If two sounds can meet in one and the same position and the meaning of the word changes – these sounds belong to two different phonemes because they are found in the distribution of contrast. **[pin] [pen]**
- If two sounds with more or less similar features never meet in one and the same position but complement each other - they are allophones of one phoneme, because they are found in a complementary distribution. **[tɪl] – [to:l]**
- If two sounds do meet in one and the same position but the meaning of the is not changed – they are optional variants of the phoneme and they find themselves in the distribution of free variation. **When**

Phonemic inventory and system

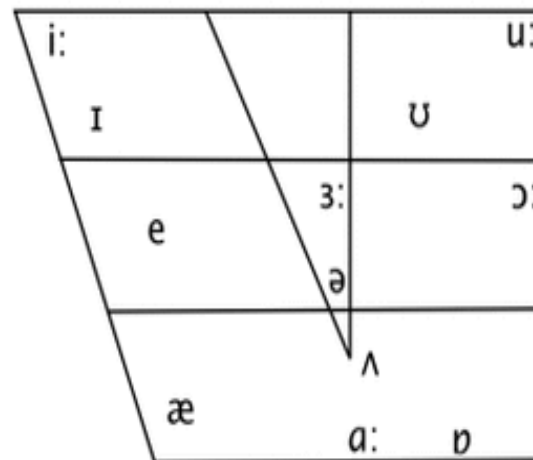
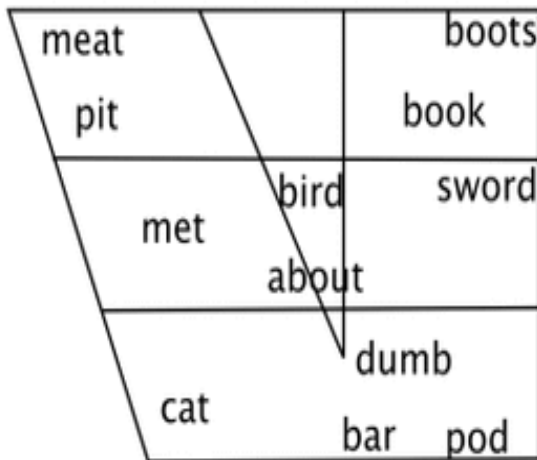
- The system of phonemes is the relationship of phonemes between each other

System features

- The relations between phonemes in the system are permanent.
- Single phonemes are in certain relations among themselves.
- Not only individual phonemes, but also groups of phonemes are in certain relations among themselves.

What makes it possible?

- Each phoneme is a combination of phonologically relevant and irrelevant features.
- Phonologically relevant features are constant distinctive features.
- Irrelevant features unite phonemes.



The theory of phonological oppositions

- To study the system of phonemes is to study the oppositions they form in the language.
- Opposition is a unit in which a sound can differentiate the meanings of two words.
- N. Trubetzkoy developed the classification of phonological oppositions

- To study the system of phonemes is to study the oppositions they form in the language.

Types of phonological oppositions

The oppositions are classified on the basis on:

- relation to members of the opposition:

private [p]-[b]

gradual [i]- [e]- [æ]

equipollent oppositions [f]-[k]

Types of phonological oppositions

- Classification of oppositions in their relation to the system of oppositions as a whole:

- multidimensional and one-dimensional

w-h

p-b

isolated and proportional oppositions.

w-h

p-b

t-d

k-g

- Classification of oppositions by the degree of their sense-distinguishing force or effectiveness in various positions:
permanent and neutralized opposition

Only one-dimensional oppositions can be neutralized

Neutralized opposition

- Russian voiced consonants

пруд – прут

луг – лук

- English unstressed vowels shwa

Subject – object

Subject – object

The result of neutralization

School	Unit	Result
Prague school	Archiphoneme	Only irrelevant features
Moscow school	Hyper phoneme [t / d]	Both relevant and irrelevant features
St.Peterburg school	Phoneme	The phoneme we hear

Practical application

- Classifications

По активному органу и месту преграды		Губные (Labial)		Переднеязычные (Forelingual)				-	-	Фарингальные (Pharyngeal)	
		-		-				Среднеязычные (Mediolingual)	Заднеязычные (Backlingual)		
				Апикальные (Apical)							
		Двугубные (Bilabial)	Губно-зубные (Labio-dental)	Межзубные (Dental)	Альвеолярные (Alveolar)	Альвеолярно-палатальные (Palato-alveolar)	Заальвеолярные (Cacuminal postalveolar)				
По способу образования преграды и по типу преграды											
Смычные	Шумные согласные (взрывные)	p, b	-	-	t, d	-	-	-	k, g	-	
	Сонорные (носовые)	m	-	-	n	-	-	-	ŋ	-	
Щелевые	Шумные согласные (фрикативные)	-	f, v	ʃ, ʒ	s, z	ʃ, ʒ	-	-	-	h	
	Сонорные	Срединные	w	-	-	-	-	r	j	(w)	-
		Боко-вые	-	-	-	l	-	-	-	-	-
Смычно-щелевые		-	-	-	-	tʃ, dʒ	-	-	-	-	

Phonemic inventory

- Phonemic inventory is the total number of phonemes functioning in the language
- English: $44 = 20 + 24$
- There are difficult cases

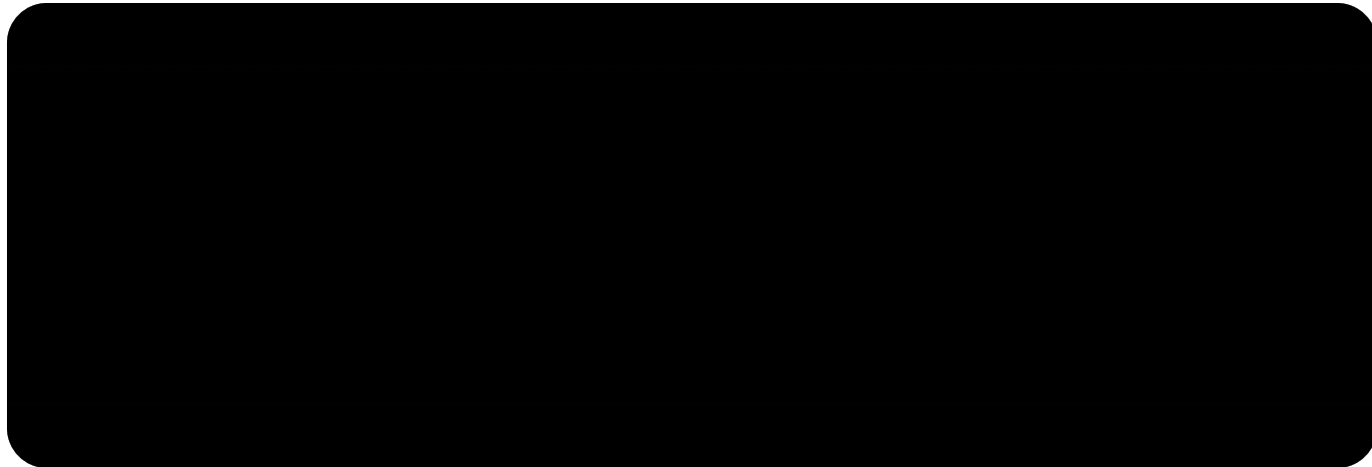
Difficult cases

- Vowels: schwa, diphthongs triphthongs
- Consonants: sonants, affricates, w-wh, h- [ŋ]

Attendance check-up



Now you are welcome to give examples illustrating the basic functions of the phoneme





Thank you for attention!

IVOYTOVICH@YANDEX.RU