MAIN TRENDS IN THE PHONEME THEORY

Plan:

1. The "mentalstic" or "psychological"view (I.A Baudauin de Courtenay).
2. The functional view (N.Trubetskoy)
3. The "physical" view American decriptivists)
4. The materialistic conception of the phoneme (L.V. Shcherba)

The "mentalistic" or "psychological“ view (I.A. Baudauin de Courtenay)

- The phoneme is an ideal "mental image" or a target at which the speaker aims. It deviates from this ideal sound partly because an identical repetition of a sound is next to impossible and partly because of the influence exerted by neighbouring sounds.

- Allophones of the phoneme are varying materializations of it.

The "mentalistic" or "psychological“ view (I.A. Baudauin de Courtenay)

- This view was adopted by E. D. Sapir.
- The same point of view was shared by other linguists, Alf. Sommjerfelt for one, who described phonemes as "models which speakers seek to reproduce.“
- The "psychological", or "mentalistic" view of the phoneme was brought back into favour by generative phonology, and the idea of the phoneme as a "target" has recently been revived, though under different terminology by M. Tatham

The "mentalistic" or "psychological“ view (I.A. Baudauin de Courtenay)

- Critique:

  It is definitely impossible to establish such ideal sounds which do not exist in reality.

The functional view (N. Trubetskoy)

- The **"functional"** view regards the phoneme as the minimal sound unit by which meanings may be differentiated without much regard to actually pronounced speech sounds.
- Meaning differentiation is taken to be a defining characteristic of phonemes:
- lɔg – lɪt, but мол – мйол/мол-мол’

The functional view (N. Trubetskoy)

- According to this conception **the phoneme is not a family of sounds,** since in every only **a certain number of the articulatory features** (**the invariant** of the phoneme), are involved in differentiation of meanings.
- It is the so-called **distinctive features** of the sound which make up the phoneme corresponding to it.

The functional view (N. Trubetskoy)

- Every sound of the English word ***ladder*** includes the phonetic feature of lenisness but this feature is distinctive only in the the third sound /d/, its absence here would give rise to a word ***latter***, whereas if any other sound becomes fortis it is merely a peculiar version of *ladder.*

The functional view (N. Trubetskoy)

- The functional view of the phoneme gave rise to a branch of linguistics called **"phonology" or "phonemics"** which is concerned with relationships between contrasting sounds in a language.
- Its special interest lies **in establishing the system of distinctive features of the language concerned.**
- **Phonetics** is limited in this case with the precise description of acoustic and logical aspects of physical sounds without any concern to their linguistic function. The supporters of this conception even recommend to extract phonetics from linguistic disciplines.

The functional view (N. Trubetskoy)

- A stronger form of the "functional" approach is the so-called **"abstract" view** of the phoneme: it regards the phonemes as essentially independent of the acoustic and physiological properties associated with speech sounds.
- This view of the phoneme was pioneered by L. Hjelmslev and his associates in the Copenhagen Linguistic Circle, H.J. Uldall and K. Togby.

The **"physical"** view (American descriptivists)

- The phoneme is a "family" of related sounds satisfying certain conditions:
- 1. The various members of the "family" must show phonetic similarity to one another, in other words be related in character.
- 2. No member of the "family" may occur in the same phonetic context as any other.

The **"physical"** view (American descriptivists)

- The extreme form of the "physical conception was offered by D. Jones and shared by B. Bloch and G. Trager.
- It excludes all reference to non-articulatory criteria in the grouping of sounds into phonemes.
- And yet it is not easy to see how sounds could be assigned to the same phoneme on any other grounds than that substitution of one sound for the other does not give rise to different words and different meaning.

Methods of Phonological Analysis

- **Plan:**

1. Principles and aims of the phonological analysis; its basic procedures.
2. The distributional and semantic methods of the phonological analysis.
3. Problems of status identification of some sounds and sound combinations in the English language.

Methods of Phonological Analysis

- Any phonetician should look upon his science primarily as a study of **the spoken form of the language.**
- To study the sounds of a language from the functional or phonological point of view means to study the way they function, that is, to find out which sounds a language uses as part of its pronunciation system, how sounds are grouped into functionally similar units, termed phonemes.
- **The final aim of the phonological analysis** is the identification of the phonemes and finding out the patterns of relationship into which they fall as the sound system of that language.

Methods of Phonological Analysis

- Different languages have a different number of phonemes and different allophones representing them.
- The social value of articulatory and acoustic qualities of sounds for the language as means of communication is different in different languages: in one language community two physically different units are dentified as "the same" sound, because they have similar functions in the language system. In another language community they may be classified as different because they perform different linguistic functions: **l - ł** and **л – л’**

Methods of Phonological Analysis

- There are many other differences which are unimportant on the phonological level of analysis:
- the realization of the /p/ phoneme in the words ***pie, spy, lamppost.*** They are all different because of the phonetic context in which they occur:
- in the word ***spy*** the sound /p/ loses its aspiration,
- in the word ***lamppost*** the first sound /p/ is replaced by a glottal stop.
- But phonologically these sounds are the same.
- Thus a very important conclusion follows: <u>where languages are concerned everything is relative and statements concerning phonological categories and allophonic variants can usually be made of one variety of a particular language.</u>

Methods of Phonological Analysis

- **The aim of the phonological analysis** is:
- to determine which differences of sounds are phonemic and which are non-phonemic
- to find the inventory of the phonemes of this or that language.

Methods of Phonological Analysis. Stages:

- **The first step** is to determine the minimal recurrent segments (segmentation of speech continuum) and to record them graphically by means of allophonic transcription. An analyst gathers a number of sound sequences with different meanings and compares them.

Methods of Phonological Analysis. Stages:

- For example, the comparison of **/stɪk/** and **/stæk/** reveals the segments (sounds) **/ɪ/** and **/æ/,**
- comparison of **/stɪk/** and **/spɪk/** reveals the segments **/st/** and **/sp/,**
- and the further comparison of these two with **/tɪk/** and **/tæk/, /sɪk/** and **/sæk/** splits these segments into smaller segments **/s/, /t/, /p/.**
- If we try to divide them further there is no comparison that allows us to divide **/s/** or **/t/** or **/p/** into two, and we have therefore arrived at the minimal segments.

Methods of Phonological Analysis. Stages:

- The next step in the procedure is the arranging of sounds **into functionally similar groups.**
- We do not know yet what sounds are contrastive in this language and what sounds are merely allophones of one and the same phoneme.

Methods of Phonological Analysis. Stages:

- **The distributional method:**
- The distributional method is mainly used by phoneticians of "structuralist" persuasions (1930s - 1950s)
- In fact, these phoneticians underestimated the distinctive function of the phoneme.
- They consider it possible to discover the phonemes of a language by the rigid application of distributional method, that is to group all the sounds pronounced by native speakers into phonemes according to the two laws of phonemic and allophonic distribution.

Methods of Phonological Analysis. Stages:

- **The distributional method:**
- These laws were discovered long ago and are as follows.
- **1. Allophones of different phonemes occur in the same phonetic context.**
- **2. Allophones of the same phoneme never occur in the same phonetic context.**

Methods of Phonological Analysis. The distributional method

- **Three types of distribution:**
- 1. Contrastive
- 2. Complementary
- 3. Free alternation.

Methods of Phonological Analysis. The distributional method

- 1. If more or less different sounds occur in the same phonetic context they should be allophones of different phonemes. In this case their distribution is **contrastive:**
- **/p/** and **/b/** in **pit** and **bit** or **/1/** and **/d/** in **lay** and **day**

Methods of Phonological Analysis. The distributional method

- 2. If more or less similar speech sounds occur in different positions and never occur in the same phonetic context they are allophones of one and the same phoneme. In this case their distribution is **complementary:**
- **Le<u>t</u> – <u>t</u>ill – s<u>t</u>ill – li<u>tt</u>le – <u>t</u>wins**
- There are cases when two sounds are in complementary distribution but are not referred to the same phoneme: English **/h/** and **/ŋ/:**
- **/h/** occurs only initially or before a vowel while **/ŋ/** occurs only medially or finally after a vowel and never occurs initially.
- In such case the method of distribution is modified by addition of the criterion of phonetic similarity/dissimilarity.

Methods of Phonological Analysis. The distributional method

- 3. A third possibility: the sounds both occur in a language but the speakers are inconsistent in the way they use them, as for example in the case of the Russian ***шкаф — шкап, галоши — калоши.***
- In such cases we must take them as **free variants** of a single phoneme. But since the situation seems somewhat unusual we would take some trouble to find the reason for the variation in the realization of the same phoneme. We could explain it on the basis of **dialect** or on the basis of **sociolinguistics.**

Methods of Phonological Analysis. Semantic method

- It is applied for phonological analysis of both unknown languages and languages already described.
- The method is based on a **phonemic rule** that phonemes can distinguish words and morphemes when opposed to one another.
- The semantic method of identifying the phonemes of a language attaches great significance to meaning.
- It consists in systematic substitution of the sound for another in order to ascertain in which cases where the phonetic context remains the same such substitution leads to a change of meaning.

Methods of Phonological Analysis. Semantic method

- With the help of an informant the change of meaning is stated. This procedure is called the **commutation test.**
- It consists in finding **minimal pairs** of words and their grammatical forms.

Methods of Phonological Analysis. Semantic method

- For example, an analyst arrives at the sequence **/pɪn/.** He substitutes the sound /p/ for the sound **/b/.** The substitution leads to the change of meaning. This would be a strong evidence that /p/ and /b/ can be regarded as allophones of different phonemes. Minimal pairs are useful for establishing quickly and simply the phonemes of the language. If we continue to substitute **/p/** for **/s/**, **/d/**, **/w/** we get minimal pairs of words with different meaning ***sin, din, win.*** *So,* **/s/**, **/d/**, **/w/** are allophones of different phonemes.

Methods of Phonological Analysis. Semantic method

- But suppose we substitute **/p^{h}/** for **/p/** the pronunciation of the word would be wrong from the point of view of English pronunciation norm, but the word would still be recognized as **pin** but not anything else.
- So we may conclude that the unaspirated **/p/** is an allophone of the same **/p/-phoneme.**

Methods of Phonological Analysis. Quantitative Oppositions.

- There are **three kinds** of oppositions.
- If members of the opposition differ in one feature the opposition is said to be single, e.g. ***pen — ben.***
- **Common features:** occlusive — occlusive, labial — labial.
- **Differentiating feature:** fortis — lenis.

Methods of Phonological Analysis. Quantitative Oppositions.

- If two distinctive features are marked, the opposition is said to be double, e.g. **pen — den.**
- **Common features:** occlusive — occlusive.
- **Differentiating features:** labial — lingual, fortis voiceless — lenis voiced.

Methods of Phonological Analysis. Quantitative Oppositions.

- If three distinctive features are marked the opposition is said to be triple, e.g. **pen — then.**
- **Differentiating features:** occlusive — constrictive, labial — dental, fortis voiceless — lenis voiced.

Methods of Phonological Analysis. Qualitative Oppositions.

- **1. Privative opposition:** when all the features are the same but one is different:
- **t-d – ten-den**
- The member in which the feature is present is called the **‘marked’, of ‘strong’, or ‘positive’** member.
- The member in which the feature is absent is called the **‘unmarked’, or ‘weak’, or ‘negative’** member.

Methods of Phonological Analysis. Qualitative Oppositions.

- **2. Gradual opposition:** formed by a contrastive group of members which are distinguished not by the presence or absence of a feature, but by the degree of it:
- **æ – e – I – i:**
- 3. **Equipollent:** formed by a contrastive pair or group of members in which the members are distinguished by different positive feature:
- **m - b**

Methods of Phonological Analysis.

- The features that do not take part in differentiating the meaning are termed as **irrelevant or non-distinctive.**
- The latter may be of two kinds:
- a) **incidental or redundant** features: aspiration of voiceless plosives, presence of voice in voiced consonants, length of vowels;
- b) **indispensable or concomitant** features: tenseness of English long monophthongs, the checked character of stressed short vowels, lip rounding of back vowels.

Methods of Phonological Analysis.

- It is well to remember that a single opposition remains single if its members differ from each other not only in a distinctive feature alone, but also in distinctively irrelevant both incidental and concomitant features.

Problems of status identification of some sounds and sound combinations in the English language.

- The problem is whether there is a schwa vowel /ə/ a phoneme or an allophone of other vowels in the weak position as /ə/ never occurs in the strong position (under stress).
- It can form phonological oppositions with other voewls and distinguish words:

E.g., /ə/ vs. /ɪ/ accept – except; armour – army

officers – offices; allusion – illusion

/ə/ vs. /oʊ/ temper – tempo

solar – solo

/ə/ vs. /ɜ:/ forward – foreword

- It is sometimes considered that */ə/* is an allophone of /ʌ/, because /ʌ/ is exclusively used in stressed syllables (as in "comfort" /’kʌmfət/, "abundant" /ə’bʌndənt/) , whereas /ə/ occurs only in unstressed syllables.

The sounds /j/ and /w/

- There are controversial views on whether /j/ and /w/ are allophones of /ɪ/ and /u/ *J or* they are separate phonemes.
- 1. R. Jakobson and other American linguists treat them as allophones of /ɪ/ and /u/ on account of their weakness and unstable articulatory features.

The sounds /j/ and /w/

- 2. Whereas other scholars treat /ɪ/ and /u/ as phonemes, because:
- 1) they can form phonological oppositions with each other and with other phonemes: e.g. "yell" - "well", ‘yet -met“, “wheat" - "meat");
- 2) they occur in phonetic positions that are generally occupied by consonant phonemes;
- 3) they cannot be considered to be allophones of vowel phonemes.

The problem of sounds of a complex nature

- In the English language the sounds /tʃ/, /dʒ/, /tr/, /dr/, /ts/, /dz/ form phonological oppositions and distinguish such words as eat — each, head — hedge, tie - try, die - dry, hat - hats, buzz - buds.
- But does that mean that all of them are monophonemic and should be included into the phonemic inventory?

The problem of sounds of a complex nature

- **N.S. Trubetskoy** worked out a number of rules which help to determine if a sound of a complex nature is monophonemic:
- a) if its elements belong to the same syllable;
- b) it is produced by one articulatory effort;
- c) its duration should not exceed normal duration of either phonemes of the language.

The problem of sounds of a complex nature

- **Rule I. Syllabic indivisibility.**
- If we compare the following words:

butcher	['bʊʧ-ə]	— lightship	['laɪt-ʃɪp]
mattress	['mætr-ɪs]	— footrest	['fʊt-rest]
curtsey	['kɜ:-tsɪ]	— out-set	['aʊt-set]
eighth	[eɪtθ]	— whitethorn	['waɪt-θɔ:n]

The problem of sounds of a complex nature

- We could see that in the words given in the left column the sounds /tʃ/, /tr/, /ts/, /tϴ/ belong to one syllable and cannot be divided into two elements by a syllable-dividing line. We could compare these complexes to the Russian /ц/ phoneme which also cannot belong to different syllables.
- Cf. /иай-‘цо/, but /съ-’вет-ский/. We could assume that the articulation of the voiced counterparts does not differ from the voiceless ones.

The problem of sounds of a complex nature

- A special instrumental analysis shows that all the sound complexes in question are homogeneous and have the maximum of articulatory features in common; that is at the beginning of the articulation the organs of speech are in the position of the second five element /ʃ/, /r/, /s/, /ϴ/ or /ʒ/, /z/, but there is a complete obstruction (a closure) formed by the tip and the sides off tongue against the alveolar ridge and the side teeth. Then closure is released and the air escapes from the mouth cavity, producing audible friction.
- **In other words the above-mentioned complexes are produced by one articulatory effort.**

The problem of sounds of a complex nature

- The available data of that kind is not reliable enough. Moreover /tʃ/, /dʒ/ complexes which are considered phonemes by all phoneticians, are not defined properly as to their length or quantity.
- The length of sounds depends on the position in the phonetic context, therefore it cannot serve a reliable basis in phonological analysis:
- the length of English /tʃ/ in the words /tʃea/ ***chair*** and /maetʃ/ ***match*** is different;
- /tʃ/ in ***match*** is considerably longer than /t/ in ***mat*** and may be even longer than /ʃ/ in ***mash***. This does not prove, however, that /tʃ/ is biphonemic.
- N.S. Trubetskoy himself admits that this condition is less important than the two previous ones.

The problem of sounds of a complex nature

- The two approaches that have been adopted towards this phenomenon are as follows:
- /tʃ/, /dʒ/, /tr/, /dr/, /ts/, /dz/, /tϴ/, /dϴ/ because in this respect the entities are indivisible.
- This is the way the British phoneticians see the situation.
- This point of view underestimates the phonological aspect and is in a way an extremity.

The problem of sounds of a complex nature

- On the other hand, Soviet phoneticians are consistent in looking at the phenomenon from the morphological and the phonological point of view which allows them to categorize /tʃ/, /dʒ/, as monophonemic units and /tr/, /dr/, /ts/. /dz/, /tϴ/, /dϴ/ as biphonemic complexes.

The problem of sounds of a complex nature

- However, this point of view reveals the possibility of ignoring the articulatory and acoustic indivisibility of the complexes.
- In this case the pronunciation peculiarities of these complexes are not analysed properly. It must be distinctly understood that that is a genuine articulatory difference between phonemes /t/, /d/ pronounced in combination with other sounds and the /t/, /d/ as parts of clusters /tr/, /dr/.
- It requires special attention and training. On this account textbooks in practical ponetics should include effective instructions on teaching the pronunciation of these sound complexes.

Types of transcription

- **A transcription** is a visual system of notation of the sound structure of speech, is also a generalization great variety of sounds that language

Types of transcription

- If it is accuracy only in the representation of the phonemes of the language that is required, the transcription should provide each phoneme with a distinctive symbol to avoid ambiguity.
- Such a transcription is generally called ***phonemic*** or b r o a d. transcription. I
- t contains as many symbols in the language as there are phonemes in it.
- The phonemic data are usually enclosed also between virgules (also called diagonals): /t/.

Types of transcription

- If it is exactness in the differentiation of the allophones of each phoneme that is required, the transcription should provide either different symbols for each allophone or introduce special marks to represent the different features of the allophones.
- Such a transcription is called **phonetic**, or **narrow** transcription.
- The phonetic data is customarily enclosed in square brackets: [t].

Types of transcription

- The modern phonetic transcription that is most widely used now is the International Phonetic Transcriptjoin was devised by the **International Phonetic Alsociation in 1904.** This transcription is a phonetic alphabet which may be applied to most of the languages.
- That is why it contains symbols that stand for phonemes of different languages.

Types of transcription
The ‘linguistic alphabet’ of the American linguists

/i̇/ for /ʌ/ (e.g. "just" /ji̇st/),

/ih/ for /ɪə/ (e.g. "near" /nih/),

/iy/ for /i:/ (e.g. "mẹan" /muyn/).

/s̆/ for /ʃ/,

/z̆/ for /ʒ/,

/c̆/ for /tʃ/,

/j̆/ for /dʒ/.

Types of transcription

The narrow type of the transcription makes use of extra symbols:

~ nasalization; $\tilde{\varepsilon}$ = nasalized ε .

• devoicing; n̥, l̥, ʒ̥ = unvoiced n, l, ʒ .

ˇ voicing; s̬ = z , t̬ = American "voiced" t.

+ advanced variety; u + or u̟ = sound between u and ʉ.

− retracted variety; a− or a̠ = sound between a and ɑ .

ˠ raised variety; aˠ or a˔ = a̝ = æ .

ˤ lowered variety; eˤ or e˕ = e̞ .

ᶜ slight aspiration after p, t, etc.

̩ under a letter (or over it if the letter has a tail below) means that the sound is syllabic; n̩ = syllabic n.

: length mark.

· half length. [86]