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THE PHONEME AND DIFFERENT APPROACHES TO THEY INVESTIGATIONS OF THE PHENOMENON IN ITS HISTORICAL ASPECT

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Abstract: This article explores the historical development of the phoneme concept and the major phonological theories associated with it. It examines the contributions of Baudouin de Courtenay and the development of the Leningrad, Moscow, Prague, American, and Copenhagen schools of phonology. The study discusses the main views of the phoneme, including psychological, functional, abstract, and physical approaches, as well as the relationship between phonemes and allophones. The article concludes that, despite differing theoretical perspectives, the phoneme remains the fundamental unit of the sound system that serves to distinguish meaning in language.

Keywords: phoneme, phonology, phonetics, allophone, phonological theory, distinctive features, phonological opposition, speech sounds, phonological schools, phonemic analysis, linguistic function, Baudouin de Courtenay.

Analysing the existing approaches and conceptions of linguistic scholars to the phoneme we may state that the formation of the phonological theory may be divided into 2 periods:

1.The "pre - phoneme" period (when there was no distinction between "speech sound" and •'phoneme" until 1870);

2.The "phonemic" period, which began in 1870 and includes the 20th century. In this period the basic phonetic and phonological terms and concepts were proposed.

As we have already mentioned that the phoneme theory came into being in Russia and its originator was Prof. I.A. Baundouin de Courtenay (1845-1929), an eminent Russian and Polish linguistic scholar, the founder of the Kazan linguistic school. Baundouin's views upon the phoneme lack consistency, for while he was developing the phoneme theory he changed his standpoint fundamentally more than once.

First Baundouin tried to analyze phonemes according to their functions in morphemes; he perceived that the same morpheme was not always represented by the same combination of sounds, this theory is called the morphological phoneme theory.

Later he began to search for a unit, which would not be found by the limits of the morpheme. Then he asserts that what really does exist and what is being constantly renewed in the individual mind is the perception of a sound, i.e., the phoneme is defined as "physiological equivalent of the speech sound". Baundouin was an adherent to the so-called psychological school of thought in linguistics.

I.A. Baundouin de Courtney's ideas had a great influence on the development of later phonological theories in the world. His idea of the distinctive-semantic function of speech sound was very important in relation to the modern theory of distinctive features of the phoneme, according to which the phoneme of a given language may be divided from a system of sequences which is formed by direr continuants, i.e., by distinctive features [*2.126-129*].

His ideas became known chiefly through the works of his pupils L.V. Shcherba and N.V. Kruzchevsky. His pupil and disciple L.V. Shcherba, who took the phoneme theory a stage further, was naturally under the influence of his teacher's views and the Leningrad Phonological

School's theory is closely connected with the name of academician L.V. Shcherba. His followers and pupils L.R.Zinder, Y.S.Mastow, M.I. Matusevitch, L.V.Bondarko, V.I.Litkin and O.l.Dickushina were representatives of this school. Much attention should be paid to the variants of the phonemes (allophones), to their linguistic (social) aspects and phoneme combinations. The Leningrad Phonological school's definition of a phoneme is based on words and word forms, i.e. the phoneme is considered to be the smallest unit capable of differentiating words and word forms.

Two Russian schools of phonology were based on the studies of Baudouin de Courtenay: the Leningrad school, which included L. V. Shcherba, L. R. Zinder, M. I. Matusevich, and L. V. Bondarko, and the Moscow school, which included V. N. Sidorov, R. I. Avanesov, P. S. Kuznetsov, A. A. Reformatskii, A. M. Sukhotin, and M. V. Panov. Also based on the work of Baudouin de Courtenay were the original concepts of S. I. Bernshtein. The Moscow and Leningrad schools differed in their concept of the phoneme and in their view of the degree to which phonology is independent of morphology, that is, in their view of the role of morphological criteria in determining the identity of phonemes [*1.99-104*].

The representatives of the Moscow phonological school based their definition of a phoneme on the concept of the morpheme. Analyzing the sound changes in the morphemic structure of a language, it is possible to establish 2 different positions: stressed and unstressed. In a stressed position phonemes can preserve their phonetic characteristics, while in an unstressed position they change their articulator and acoustic features - they distinguish "weak" and "strong" positions. This fact is very important in the phonetic analysis of Russian vowels.

The phoneme idea was further developed by the Prague Phonological School.

Among tine linguistics of this society were a number of well-known scholars whose works created quite a revolution in linguistics. The works of Trubetskoy N.S. attracted the attention of most linguists.

N.S.Trubetskoy became acquainted with the phoneme theory through the works of Baundouin and Shcherba when he studied at the University of Moscow. Later he propounded his phonological views in a number of works.

The main points of Trubetskoy's theory are:

1. The separation of phonology from phonetics.
2. The theory of phonological oppositions.

According to him, phonology is a linguistic science, and should concern with the distinctive features of a language only, i.e. with those features that are connected with meaning; while phonetics is a biological science and should concern itself with the sounds of a language as they are pronounced and as they are heard, without paying any attention to their function in the language.

The American phonological school (Edward Sapir, Leonard Bloomfield, Hackett) and the Copenhagen school (Hjelmslev, Jacobson) share the views of the Prague Phonological school, namely:

a) Linguistics is connected only with phonology and phonetics - with physics.

b) Only distinctive functions are important in oppositions of phonemes [*5. 35-43*]. But in all these definitions, views, linguists disagree with each other on this or that matter. All these facts show that different linguists follow different principles and use different methods and adhere to different conceptions. As to the definitions of the phoneme they have not yet arrived at a working definition acceptable to all. Because it is actually impossible to devise a formula or a formal definition in a single sentence that would reflect all the aspects and functions.

An outstanding Russian phonetician V.A. Vasilyev's following definition of the phoneme seems to be the best among them: "The segmental phoneme is the smallest language unit (sound

type) that exists in the speech of all the members of a given language community as such speech sounds which are capable of distinguishing one word from another word of the same language or one grammatical form from another grammatical form of the same word" [*3.106-109*].

It should be taken into account that speech sounds can perform this distinctive function only when they are opposed to each other or to no sound in one and the same position. For example: bid-bad-bed, ask-asks-asked

If the slight articulatory and acoustic change of the quality of the speech sound doesn't influence the meaning of the word or word form, then this actually pronounced, speech sound is called an allophone (or variant) of the phoneme, because in this case this allophone is incapable of differentiating words or the grammatical forms of one and the same word:

e.g.

eight eighth	read try
[eit - eito]	[ri:d - trai]

To know how sounds are produced is not enough to describe and classify them as language units. When we talk about the sounds of language, the term "sound" can be interpreted in two different ways. First, we can say that [t] and [d], for example, are two different sounds in English: e.g. ten-den, seat-seed. But on the other hand, we know that [t] in let us and [t] in let them are not the same. 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 clear that the sense of "sound" in these two cases is different. To avoid this ambiguity, linguists use two separate terms: phoneme and allophone.

The phoneme is 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.

Firstly, the phoneme is a functional unit. In phonetics function is usually understood as a role of the various units of the phonetic system in distinguishing one morpheme from another, one word from another or one utterance from another. The opposition of phonemes in the same phonetic environment differentiates the meaning of morphemes and words: e.g. 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. Thus we may say that the phoneme can fulfill the distinctive function.

Secondly, the phoneme is material, real and objective. That means it is realized in speech in the form of speech sounds, its allophones. The phonemes constitute the material form of morphemes, so this function may be called constitutive function.

Thirdly, the phoneme performs the recognitive function, because the use of the right allophones and other phonetic units facilitates normal recognition. We may add that the phoneme is a material and objective unit as well as an abstract and generalized one at the same time.

To extract relevant features of the phoneme we have to oppose it to some other phoneme in the phonetic context. If the opposed sounds differ in one articulatory feature and this difference brings about changes in the meaning this feature is called relevant: for example, port — court, [p] and [k] are consonants, occlusive, fortis; the only difference being that [p] is labial and [t] is lingual.

The articulatory features which do not serve to distinguish meaning are called non-distinctive, irrelevant or redundant. For example, it is impossible to oppose an aspirated [$p^{h.}$] to a non-aspirated one in the same phonetic context to distinguish meaning.

We know that anyone who studies a foreign language makes mistakes in the articulation of sounds. L.V. Shcherba classifies the pronunciation errors as phonological and phonetic. If an

allophone is replaced by an allophone of a different phoneme the mistake is called phonological. If an allophone of the phoneme is replaced by another allophone of the same phoneme the mistake is called phonetic [*4.47-51*].

The aim of the phonological analysis is, firstly, to determine which differences of sounds are phonemic and which are non-phonemic and, secondly, to find the inventory of phonemes of the language.

Those linguists of the Moscow phonological maintain that two different phonemes in different allomorphs of the same morpheme may be represented on the synchronic level by one and the same sound, which is their common variant and, consequently, one and the same sound may belong to one phoneme in one word and to another phoneme in another word.

In order to decide to which phoneme the sounds in a phonologically weak (neutral) position belong, it is necessary to find another allomorph of the same morpheme in which the phoneme occurs in the strong position, i.e. one in which it retains all its distinctive features.

Views of the phoneme seem to fall into four main classes. The **"mentalistic"** or **"psychological"** view regards the pho neme as an ideal "mental image" or a target at which the speak er aims. He 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. Ac cording to this conception allophones of the phoneme are vary ing materializations of it. This view was originated by the founder of the phoneme theory, the Russian linguist I.A.Baudouin de Courtenay and something like it appears to have been adopted by E.D. Sapir, Alf. Sommerfelt, M.Tatham [*7. 104*].

The so-called **"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. Thus the absence of palatalization in [l] and palatalization of the dark [ɬ] in English do not differentiate meanings, and there fore [l] and [ɬ] cannot be assigned to different phonemes but both form allophones of the phoneme [l]. This view is shared by many foreign linguists: see in particular the works of N. Trubetskoy, L. Bloomfield, R. Jakobson, M. Halle [*2.145*].

The functional view of the phoneme gave rise to a branch of linguistics called **"phonology"** or **"phonemics"** which is con cerned with relationships between contrasting sounds in a lan guage. Its special interest lies in establishing the system of dis tinctive features of the language concerned. Phonetics is limited in this case with the precise description of acoustic and physiological aspects of physical sounds without any concern to their linguistic function.

A stronger form of the "functional" approach is advocated in the so-called **"abstract"** view of the phoneme, which regards phonemes as essentially independent of the acoustic and physiological properties associated with them, that is of 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 views of the phoneme discussed above can be qualified as **idealistic** since all of them regard the phoneme as an abstract conception existing in the mind but not in the reality, that is in human speech, speech sounds being only phonetic manifestations of these conceptions.

The **"physical"** view regards the phoneme as a "family" of related sounds satisfying certain conditions, notably:

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 extreme form of the "physical" conception, as propounded by D. Jones and shared by B. Bloch and G. Trager, excludes all reference to non-articulatory criteria in the grouping of sounds into phonemes [*6.104*].

Baudouin de Courtenay was an adherent to and an active exponent of the so-called psychologistic school of thought in linguistics widely current in his time. His pupil and disciple, L. V. Shcherba, who took the phoneme theory a stage further, was naturally under the influence of his teacher's views and of the general trend in linguistics then, current.

N.S.Trubetzkoy's treatment of the phoneme was at first also mentalist, or psychologistic (although only terminologically, as he later explained).

In another variety of the entirely abstractional conception of the phoneme the latter is regarded as a disembodied unit of language. This conception was originated by Ferdinand de Saussure, the famous Swiss linguist, who was the first exponent of the phoneme theory in Western Europe.

But the maximal estrangement between phoneme and sound or, correspondingly, between phonemics and phonetics, is advocated by the founder and head of the Copenhagen Linguistic School L. Hjelmslev and the Soviet linguist S. K. Shaumyan. Hjelmslev's view of the phoneme has been aptly termed "algebraic" by R. Jakobson and R. Halle because the champion of this trend, Hjelmslev, calls on linguistics to become "an algebra of language operating with unnamed entities, i.e. arbitrarily named entities without natural designation."

With the spread of the phoneme theory to and in the United States of America, originally in F. de Saussure's interpretation, the exclusively abstractional view of the phoneme was shared by some American linguists or at least it tinged to varying degrees their phonological conceptions.

The denial in American linguistics of the objective reality of the phoneme has been carried to an extreme in what is known as the fictionalist view of the phoneme launched by W. F. Twaddel in his monograph On Defining the Phoneme (1935). In this work, Twaddel declares the phoneme "an abstractional, fictitious unit", "the figment of the linguist's imagination", "a scientific fiction", although a convenient one. But as a matter of fact, these are only declarations, because the author, apparently desirous to give further proof of the usefulness of this "convenient scientific fiction", offers his own definition of the phoneme, which is only terminologically new: he introduces the term microphoneme, which is equivalent to what is now more commonly known as minimal distinctive feature, and the term macrophoneme which is equivalent to (segmental) phoneme. A macrophoneme is the sum total of microphonemes, which is equivalent to L. Bloomfield's definition of the phoneme as a bunch, or bundle, of distinctive features, a definition accepted by a great many American descriptivists, and acceptable on the whole, to Soviet linguists as well.

In the second group of phonological conceptions, which are the opposites of the purely abstractional ones, it is the abstracted and generalized character of the phoneme which is implicitly denied, disregarded or underestimated. The essence of these conceptions consists in the definition of the phoneme as a mechanical sum of its allophones. From a philosophical point of view such definitions may be qualified as vulgarly materialistic and, therefore, metaphysical. In the same way as the concept house cannot be defined as the sum total of all the houses existing in the world, so the phoneme cannot be defined as the sum total of all its allophones, although it includes all of them.

One of the most typical definitions of this kind was put forward in D. Jones' well-known book An Outline of English Phonetics and has survived unchanged all of its nine editions (since 1918), including the revised ones. Here is this definition: "A phoneme may be described roughly as a family of sounds consisting of an important sound of the language (generally the most frequently used member of that family) together with other related sounds which 'take its place'

in particular sound-sequences or under particular conditions of length or stress or intonation." Practically the same definition is given by D. Jones in his special book on the phoneme entitled The Phoneme, its Nature and Use (1950, 1960).

Some American descriptivists give definitions of the phoneme which are similar to D. Jones' (as a matter of fact, the same as his to all intents and purposes). Here is one of the definitions by B. Bloch and G. Trager (1942): "A phoneme is a class of phonetically similar sounds, contrasting and mutually exclusive with all similar classes in the language."

Definitions of the phoneme in which its functional aspect is not reflected do not form a separate group: they belong either to the first group (purely abstractional) or to the second (vulgarly materialistic).

In those definitions in which the functional aspect of the phoneme is reflected, it is only its distinctive function which is referred to because it is the specific function of the phoneme as such. Its constitutive and recognitive functions have been singled out and the terms for them suggested for the first time by the author of the present work.

For the sake of objectivity it should be pointed out that most authors who do not include any reference to the distinctive function of the phoneme in their main definition of it mention this function in other, subsidiary, definitions, often just in passing. Thus the first manifestation of a linguist's disregard for or underestimation of the distinctive function of the phoneme consists in his not even mentioning this chief characteristic of the phoneme as such in its main definition.

The second, more serious and objectionable, manifestation of a linguist's disregard for or underestimation of the distinctive function of the phoneme is his refusal to accept the presence of this function as the principal criterion for identifying the phonemes of a language as items of its phonemic system. Phonemes can only perform their distinctive function as terms of a phonological opposition, i.e. in minimal pairs.

In establishing the phonemic status of each sound of the language or dialect under consideration those phonologists who regard the distinctive function the principal function of the phoneme as such have recourse to meaning.

Since the distinctive function of the phoneme can only be performed by it as a term of a phonological opposition, this method consists in finding minimal pairs of words and their grammatical forms (quasi-homonyms, in L. V. Shcherba's terminology). But such pairs can only be found if the investigator knows that the members of a pair under consideration are really different words or grammatical forms and not just two different repetitions or variant pronunciations of the same word or form by the same speaker (e.g. back /bæk/ pronounced with an exploded [k] and with a plosionless one).

The third and decisive stage — the actual identification of the phonemes — begins with finding lexical and grammatical minimal pairs with the help of the distributional tables that show which sounds occur or do not occur in identical positions and by means of the commutation test.

It should be pointed out, however, that conclusions about the phonemic status of certain speech sounds may be arrived at even during the first and the second stages of the analysis on the basis of the general phonological rules of identifying phonemes without direct reference to the distribution of speech sounds.

One of such rules, having the character of a phonological axiom, may be called the law of great phonemic dissimilarity. According to this law, entirely or greatly different sounds, such as a vowel and a consonant or [m] and [t], etc. cannot be allophones of the same phoneme. The English consonants [ŋ] and [h] are so different from each other that they cannot be classed together as allophones of the same phoneme, although they are never mutually opposed because they always occur in different positions and may, therefore, be considered, on the basis of their distribution alone, to be allophones of the same phoneme: [ŋ] occurs only at the end of a word or

a syllable, e.g. /bæŋ, bæŋ-iŋ/ (bang, banging), whereas [h} occurs only at the beginning of a word or a syllable, e.g. /hæv, bi'heiv/ (have, behave).

The second rule of phoneme identification without immediate distributional evidence, although less axiomatic, may be called the law of conditioned allophonic similarity.

According to this law, two more or less similar sounds, which are, at the same time, ipso facto, more or less different, are allophones of the same phoneme if the difference between them is clearly due, or can be proved on the synchronic level to be due, to the influence of purely external phonetic factors, such as the neighbouring sounds, stress, etc., and not to the speaker's (usually unconscious) need and, therefore, habit, to produce this difference for distinctive purposes in spite of the influence of the purely phonetic factors.

The phonemic analysis of GA sounds by American descriptivists shows how differently they have "grouped these sounds into phonemes" as compared with the way British phoneticians traditionally assign the RP sounds to phonemes, although the differences between GA and RP are not so great and numerous to warrant such a great discrepancy between the number of phonemes in GA (e.g. only 6 or 9 vowel phonemes) and that in RP (21 vowel phonemes). Moreover, the same number of GA sounds is grouped into different numbers of phonemes by different American linguists themselves (e.g. 6 vowel phonemes in B. Bloch's and G. Trager's analysis against 9 in H. Gleason's). British phoneticians find different numbers of phonemes in RP.

There are differences of opinion among Russian linguists about the number of phonemes in Russian. In view of these differences the question naturally arises about their causes.

If phonemes are real, objectively existing units of language, why then do linguists disagree about their number, and assign the same sounds to different phonemes? The cause lies, of course, not in the phonemes themselves, but in the minds of the linguists. Phonemes with their distinctive function do exist in objective linguistic reality in the form of distinctive sounds, but linguists may differ from each other about the way speech sounds perform their distinctive function, i.e. about the mechanism of word and form differentiation. For instance, an American descriptivist will disagree with a British phonetician about the way /bet/ is differentiated from /beit/ and /beit/ from /best/. It follows from this that /best/ is differentiated from /beit/ by the opposition of the phonemes /s/ to /i/; /best/ /beit/

The Englishman will maintain that the diphthong /ei/ is a single phoneme, that /beit/ consists, therefore, of three phonemes, like /bet/, and the two are differentiated from each other by the opposition /e/ vs. /ei/, i.e. /bet/ /beit/

At the same time, both are differentiated from /best/ by a zero opposition, viz.:

/be-t/ /bei-t/ /best/

In this way, i.e. by considering the English diphthongs and historically long vowels to be biphonemic combinations, the American descriptivists have liquidated them as single phonemes and thus have greatly reduced the number of vowel phonemes in GA. Most British linguists consider the English diphthongs and long vowels, traditionally, to be monophonemic units. Hence they find as many as 21 vowel phonemes in RP.

But, of course, the American descriptivists, neither meant, nor would be able, even if they wished, to "liquidate" the diphthongs and long vowels as sounds in American speech.

It may be concluded then that while speech sounds functioning as phonemes are objective realities, the grouping of these sounds into phonemes is arbitrary and, therefore, subjective. But it is arbitrary only to some extent: the material and objective nature of the phonemes is reflected in some generally recognized rules of phonemic analysis, compliance with which ensures a wide area of agreement between different linguists analysing the same language. For example, no phonologist would ever assign the sound [e] to the [k]-phoneme.

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