



## From the History of the Concept of Phoneme

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### **Abstract**

The following article studies the history of the concept of phoneme, also scientific works on this direction. In particular, the article discusses problems of forming concept of phoneme.

**Keywords:** *Concept of Phoneme; History; Problem; Forming Concept*

### **Introduction**

Research investigations concerning the study of the history of the concept phoneme in phonetic and phonologic is conducted at the leading research centers and institutions of higher establishments in the world.

Each language has a large number of sounds. Each sound of speech is the acoustic result of certain movements (articulations) of the speech apparatus. If we understand the sound of speech, then it should be further said that there are a huge number of such sounds in each language.

For speakers, the whole variety of sounds is combined according to articulatory, acoustic and semantic attributes into a relatively small number of sound groups. Taking a typical sample from such a group, we get a number of sound types characteristic of a given language.

The members of the language collective basically hear, understand, reproduce them the same way (both verbally and in writing) and equally contrast such a sound type to all other sound types of a given language. Such a characteristic sound type, having a number of properties listed below, used in sound speech, is called a phoneme.

Let us clarify with a brief example the basic properties of such a sound type - phoneme. If we ask several representatives of one or another language, for example, Russian, to say, say, t, s, a, e, etc., we will make sure that each of the speakers will have slightly different sounds, but a huge variety of minor shades for language practice will not matter.

Along with such insignificant, but various optional shades in each language, there are shades of mandatory; they are determined by the position in which the given sound is located. Vowels of the Russian language under stress and unstressed syllable, between soft consonants and after a soft consonant in front of a hard one, etc.

It is important that in fact such a variety of sounds - various t, s, a, e, etc. в in speech practice are reduced to a limited number of certain sound types. (Naturally, in the case of the "isolated" use of any sound types in scientific analysis, in pedagogical practice, we strive to pronounce one or another sound type with its most characteristic acoustic anatomical and physiological properties.)

Thus, we observe in the language, in this case in its phonetics, the unity of the general and particular phenomena; we pronounce the quotient - one of the sound type variants - phonemes and thereby use this option as a phoneme. If a given sound type in a certain sound complex can be contrasted with another sound type in another sound complex so that this contrast will result in a new word or other form of the same word, we are dealing with a fact that allows us to state the presence of two phonemes. **Compare Russian words:** *вал, мал, мял, пал, жал, бал, зал* etc. or *мул, мол, мал, мыл (мел)* (The words chalk and mil are given in parentheses because not only vowels change in these words: in the first case there is "м", and in the second case "м'", that is, a softened (palatalized) consonant.), or *мал, мала, мало, малы; жало, жала, жалу* etc. (Compare also English words: why, by, my, high, French words: tes, des, les, German words: fallen, wallen, schallen, hallen, ballen, etc.)

Almost all of the above words differ in sound terms with only one phoneme. Different forms of a word can also differ from each other in only one phoneme.

But if for some reason an improper phoneme is used and the word, as such, ceases to exist, there remains nothing insignificant complex of sounds; this phenomenon for speakers is indirect evidence that some other phoneme of the given language was pronounced. (If sometimes, for one reason or another, the phoneme of another language is pronounced, the linguistic consciousness of the speaker identifies it with the nearest phoneme of the native language.)

It is also important to realize that one phoneme of a given language is opposed to all its other phonemes. Thus, in the phonetics of each language there is a system of phonemes as a system of opposites. Let us return to the example, they say, is small, etc. There is no need to prove that the phoneme is different from all consonants of the Russian language as an anatomical, physiological, acoustic and linguistic phenomenon. There is also no need to prove that it is opposed to other vowels of a given language by its anatomical and physiological properties. But in order to show its specificity as phonemes in comparison with other vowels, we need a special example: u can be in Russian: a) a separate word (with a grammatical meaning) and b) a morpheme.

In addition, vowels can be replaced in the given series of examples. (*мал, мол* etc.) vowels y. (**Compare Russian words:** «*мул*».) Even with such a simple example, we are convinced that there is every reason to oppose, for example, the vowel y and semantic point of view to the other phonemes of the given language.

In an isolated position, phonemes are rare. Usually combined with other phonemes of a given language, they form its morphemes and words.

### **Data, Analysis and Results**

Most authors call Baudouin, Krushevsky, Passy, Sweet, Saussure, Uslar as "discoverers" of phonemes.

Meanwhile, the very opportunity to see the “discoverer” in almost a dozen linguists shows that the idea of the phoneme in those years when it was expressed was “in the air”. It means that - linguistic practice put forward certain requirements for the development of the theory, first of all, it came to the need to contrast significant and insignificant sound features in a given language;

-Theoretical linguistics has reached a certain level of development, namely: it has developed methods and concepts, combining and reinterpreting which could come to the concept of a phoneme.

It is easy to see that by the 70's of the nineteenth century in both of these premises were evident. In linguistic practice, revolutionary speech was played by a violent enthusiasm that began in the neo-grammatical period with the study and description of the synchronous state of living languages and dialects, in turn, due to socio-economic reasons. Hence the need for phonemic transcription, which is especially evident with phonetic typology. It was from the tasks of transcription that the difference between significant and insignificant phonetic features of Uslar, Winteler, Suite, Passy grew. But it is characteristic that none of them, expressing the idea of the need for such a distinction (and they expressed it, apparently, independently of each other), could not take the next step - he was unable to formulate the concept of a phoneme as a correlate of sound.

The historical merit of I.A. Baudouin de Courtenay in the field of phonemic theory consists precisely in the fact that, having arrived at the need to contrast significant and insignificant sound features, he was able to rely on the previous development of linguistic science and create the doctrine of the phoneme as a consistent theory, and not as a simple generalization of empirical observations.

As far as we know, the question of what exactly he was able to rely on has still not been completely developed in the history of phonology. Let us try to answer this question even in the most general terms.

For this purpose, it is necessary to trace the development of Baudouin's views on phonetics in the “pre-phonemic” period, i.e. reveal the main trends that subsequently led to the emergence of the concept of phoneme.

Already in 1870, Baudouin had the idea of “the discrepancy between the nature of sounds and their meaning in the sense of the people.” Moreover, the “sense of the people” is fully equated (as later in the programs) with the “language mechanism” (Baudouin, 1963, p. 46). This thought arises in connection with the analysis of the phonetic system of the Polish language. So, Baudouin states that in some cases “the sound is physiologically complex for the flair of the people (in the mechanism of the language) is simple”, such as c, dz, etc. It is interesting that the static and dynamic point of view is clearly contrasted here: on the one hand, the ratio of the physiological and “phonological” aspects of sound; on the other, the classification of sounds by origin. But Baudouin completely reduces the causal side of the considered “phonological” phenomena to genetic justification.

In “Some general remarks ...” the difference between the two sides of the sound is detailed. Here, Baudouin, discussing the subject of phonetics, contrasts the “consideration of sounds from a purely physiological point of view” and “the analysis of sounds from a morphological ... point of view”, which takes into account “the role of sounds in the mechanism of language, their significance for the flair of the people, which does not always coincide with the corresponding categories of sounds by their physical property” (Baudouin, 1963, p. 66). This meaning is due, “on the one hand, to the physiological nature, and on the other hand, to the origin, history of sounds”. All this is “static of sounds”. In addition, there is also a third type of consideration of sounds - their analysis “from the historical point of view”, in which the laws and conditions of the development of sounds in time (dynamics of sounds) are studied” (Baudouin, 1963, p. 66).

In the 1873 program, this understanding is complemented by a distinction between the two types of linguistic analysis. This, on the one hand, is an analysis leading “from sentences to words, from words to their significant parts (words as complexes of meaningful, significant parts), on the other hand, to purely physiological parts of speech, to sounds (words as complexes articulate sounds). The division of words from different points of view” (Baudouin, 1963, p. 78).

The 1876 program does not contain anything fundamentally new in this regard. Here we find, firstly, a more detailed description of the types of analysis: it can be syntactic, morphological, and phonetic; mentions “sounds, like phonetic atoms, phonetic units of words” (Baudouin, 1963, p. 108). Secondly, a very important definition of phonetics is introduced: “the morphological and etymological part of the science of sounds in general ... the application of the physiology of sounds to the consideration of the sound system (mechanism) of a known language. Phonetics is the applied physiology of sounds” (Baudouin, 1963, p. 109).

This definition is important because it combines for the first time two thoughts with complete certainty: the thought of different types of analysis, developing the old idea of various aspects of studying the sound of speech, and the idea of distinguishing between psychic and physiological phonetics, the doctrine of the psychic equivalents of sounds.

Let us return to the beginning of the scientific activity of Baudouin and trace also this last idea.

In the monograph on Polish declension there is only a vague indication of “sensation” - the future of “intuition of the tongue”. In “Some general remarks ...” we find an already detailed contrast between the “physical side of sound”, that is, its “construction from sounds and consonances” and “instinct of the tongue of the people” (Baudouin, 1963, p. 60). Elsewhere in the same work, criticizing I. Schmidt for considering language in a representation of consonance (Baudouin, 1963, p.76), connecting sound (sound form) with its function in the psychic mechanism of language.

There is also a third “phonological” idea of the pre-phonological period. This is the idea of connecting sound with the meaning that sound tones can be used to distinguish between the meaning of the roots or whole words.

For the first time, as A.F. Hirschert (Bischert, 1940, p. 50), it appears already in 1868. Baudouin speaks of alternating **e ch** as “alternating consonants used to differentiate values” (Baudouin, 1869, p. 222). Later, in 1873, Baudouin stated the “mutual relations” of sounds, “based on the connection of meaning with sound” (Baudouin, 1963, p. 81); however, here we are still talking only about alternations of the type of ablaut, which is evident, for example, from the paragraph: “the alleged use of parallels of sounds with a mental purpose in the primitive Arian-European language” (Baudouin, 1963, p. 81), or from a statement about the disappearance of “mental, the inner side of sounds” in analytical languages (Baudouin, 1963, p. 82). However, in the same program there is also the following thesis: “The desire to ... distinguish, through sound relations, two or more originally identical words or the formal parts of a word” (Baudouin, 1963, p. 84). In later programs “on this thought was based ... the doctrine of the so-called” rise” in several layers, about types of conjugation, about replacing one sound with another not as a sound, but as a phonetic component of the morphological part of a word” (Baudouin, 1963, p.125).

So, in the pre-phonological period, Baudouin simultaneously develops three ideas.

The idea that articulate (as it was customary to translate the term “articulated” in Russian linguistics) sound has, in addition to purely physiological and acoustic features (“clearly perceived unity”), such features, such “something” in relation to which “others can to be compared with it or opposed to it”, the idea that sounds are produced in a certain “relation to each other”, defined in the

historically developing“ system of the corresponding language ”- this idea can be found in a developed form by Wilhelm Humboldt.

Even more characteristic of Humboldt (and was widely developed by his school) was the idea of distinguishing between sound and the psychic mechanism of language. Benfey's book, to which there is a footnote in the appropriate place of “Some general remarks ...” reflected the point of view in 1869 generally accepted (Benfey, 1869, p. 8-9). As for the specifically “psychic equivalent” of sound, sound image, or sound representation, such a concept exists, in any case, between the two largest linguists - the Humboldtians - Scheintal and A.A. Feel free. In any case, in G. Paul, who develops the same Scheintal's ideas, the concept of “sound image” appeared much later.

Finally, the third idea - the use of sounds in order to “distinguish between similar and dissimilar in concepts” goes back to the same Humboldt, who considered, as we have already pointed out, that the main function of articulated sound is its use to form meaningful units of the language - roots or words. In Russian linguistics, this idea besides Baudouin (and, apparently, independently of it) was successfully developed in 1874 by M. Tulov. “Take the word table; it expresses the name of our representation of a known subject; we add to that word the sound “a”, let's say the table, and we will express not only one name, but the name and at the same time a well-known relation in which representation is conceivable in a sentence, we express the genitive case of the word. Let's take other words: salt, so, pack, steel. Each of them has its own special meaning, its own meaning. What is ensured in the sound of words by this difference in their meaning? It is provided for hearing with various articulations, with different tones of individual sounds that make up the word. The word is so clearly different from the word salt, with its sound t; in words the table and steel became the difference in the sense for hearing only with a soft or hard reprimand of the same letter l” (Tulov, 1881, p.14).

Let us return, however, to Baudouin's phonological views and try to illuminate the conditions and circumstances of the very concept of the phoneme. As is known, for the first time at Baudouin this concept appears in the article “Some Departments of the Comparative Grammar of Slavic Languages” (1881). It contains the opposition of divergences and correlatives. “Divergent means homogeneous sounds, the differences of which are now explained by the existing (available) anthropophonic conditions. Otherwise:

Divergent - modifications of one (the same) sound, due now to the existing sound laws.

The divergence of sounds completely depends on their combination changes” (Baudouin, 1963, p. 119).

“Correlatives are anthropophonically different, but homogeneous sounds, the difference of which cannot be explained by the current conditions”.

The dependence of this distinction on the distinction made between programs of statistical and dynamic laws in phonetics is quite obvious. In general, this is an attempt to synthesize different aspects of phonetics, an attempt to develop, on the basis of the doctrine of statics and dynamics, a system of concepts that would be acceptable both for the historical development of the language and for its statistical state, i.e. for anthropophonics and psychophonetics. So, “in the words twirl//twirls from the point of view of divergence the vowels of the first syllables are two different sounds, two divergent”; but “in the field of correlatives and correspondents”, i.e. with a historical or dynamic approach, “these are random modifications of one total sound, for which one common expression should be found” (Baudouin, 1963, p. 120).

Baudouin arrives at the concept of the phoneme through just such a synthesis and, in particular, through the concept of correlatives. He reasoned as follows:

”Determining the etymological related segments, we come to the unification of such sounds, which in themselves, in their anthropophonic properties have nothing to do. In addition, a correlative is not always a sound, since it can consist of several sounds or sound, plus the anthropophonic property of another sound, etc. Therefore, one cannot call a correlative a sound, but one should find some other term. This term is a “phoneme”. “A phoneme is the sum of the generalized” anthropophonic properties of the known phonetic part of a word, indivisible when establishing correlative relations in the field of one language and correspondent connections in the field of several languages ” (Baudouin, 1963, p. 121). This is, in essence, a unit of historical phonetics, a category of linguistics, a product of scientific analysis and generalization. But at the same time, it generalizes very real, completely “individual” anthropophonic properties and, therefore, becomes a “category of language” and thus combines historical (etymological) phonetics and anthropophonics.

We find a similar approach with Krushevsky, who blindly followed Baudouin. In his essay of Saussure's book, where the term “phoneme” first appears, he writes: “This word can be used with advantage as a term for a phonetic unit; whereas the word “sound” could mean a unit of the so-called physiology of sound. The fact is that phonetic units are not always a separate sound” (Krushevsky, 1880, p. 36).

This kind of argumentation can cause paradoxical doubt: would a phoneme theory be created if such a “phonetic unit” in Russian and other languages was always a separate sound? If we reduce the origins of Baudouin's phonological theory to alternation theory only, this question will have to be answered in the negative. But the fact that such a reduction is unlawful is already indicated by the provision on the “double division of human speech” set forth on the same page of the Baudouin article and throwing a bridge to the idea of different types of speech analysis known to us from earlier works:

- 1) from an anthropophonic point of view: whole audible speech is divided into anthropophonic words, words into anthropophonic syllables, syllables into sounds;
- 2) the points of view of phonetic-morphological (semasiological and syntactic): integral coherent speech is divided into famous sentences or phrases, sentence into significant words, words into morphological syllables or morphemes, morphemes into phonemes” (Baudouin, 1963, p. 121).

This division, which is clearly only indirectly related to alternation theories, is connected with the opposition of the two sides of the concept of phoneme, corresponding, according to Baudouin's instructions, to two categories of correlatives. Correlatives can be, on the one hand, amorphous, “not related to any shading of morphological functions” (Baudouin, 1963, p. 119). They correspond to the phoneme “as simply a generalization of anthropophonic properties”. On the other hand, there are “correlatives morphologically mobile, that is, the diversity of which coincides with the variety of known morphological categories” (Baudouin, 1963, p. 119). “A phoneme corresponds to them as a mobile component of a morpheme and a sign of a known morphological category” (Baudouin, 1963, p. 121).

Let us try to understand these two sides of the concept of phoneme. Apparently, the phoneme as “the moving component of the morpheme is a generalization of alternations morphologized in a given static state of the language of language (“they have a reason (reason) to others, and those others are stable. But divergents depend on anthropophonic conditions, and correlatives are mobile on morphological conditions”), and the phoneme as “just a generalization of anthropophonic properties” corresponds to an etymological understanding. Baudouin, understanding the difference between the concepts of phoneme, wrote that it is necessary “to distinguish the two sides mentioned from the concept of phoneme and, at the same time, to establish particular terms for them” (Baudouin, 1963, p. 122), but he did not. And A.A. did it. Leont'ev, designating for clarity the phoneme in the etymological understanding of the term “Phoneme”, and phoneme in the static-morphological sense of the term “phoneme”

Why did Baudouin reveal in one work two essentially different concepts of phoneme, which are not very clearly distinguished by them? In our opinion, V.N. correctly answered this question. Toporov: “Two ways played a special role in the emergence of Baudouin de Courtenay's theory, which could conditionally be called phonological. One of them was connected with the requirements of comparative historical problems (studying the sound system of related languages and its study in the history of a given language)” (Baudouin, 1963, p. 34). The immediate impetus in the development of two aspects of the concept of a phoneme was, on the one hand, the carnival studies of Baudouin, and on the other, an increase in the Kazan circle by the recently published (1879) *Memoir de Saussure*. Baudouin later pointed out that “de Saussure's great merit is in emphasizing as much as never before. The connection of phonetic relations with the morphological structure of words” (Baudouin, 1909, p. 200); Wed similar statements by Krushevsky (Krushevsky, 1880). It is important to note that Saussure's etymological and morphological aspect is not at all opposed to the static-morphological one: maybe this played a certain role in the further evolution of Baudouin's views.

The concept of divergent put forward by Baudouin in “Some Departments ...” at that time was for Baudouin outside the theory of phonemes, since divergent are modifications of the same sound and therefore do not require any additional term. They are united not by morphological and generally systemic, but anthropophonic identity: Baudouin now and then comes across expressions like: “close from the anthropophonic side, so that they could be divergent if their previous coherent connection with known anthropophonic conditions existed” (Baudouin, 1963, p. 326). And the anthropophonic identity is peculiar to “language in the analyzed period of its development” and is due to the unity of the psychic equivalent of sound.

Thus, although Baudouin does not have the very concept of “psychic image” or “psychic equivalent of sound” in this work, nor does it correspond to such a concept of using the term “phoneme”, but this concept is implicit. He was called A.A. Leont'ev “phoneme”.

So, in the article “Some Departments ...” we have three understandings of the phoneme: two explicit ones that Baudouin himself possesses, and the third, which he still has not fully realized, but which is logically necessary and subsequently appears naturally. The phoneme<sub>1</sub> connects anthropophonics with historical phonetics. The phoneme<sub>2</sub> connects anthropophonics with the “language mechanism”; its occurrence is particularly closely related to the Humboldt tradition. The phoneme<sub>2</sub> connects anthropophonics with static psychophonetics, which will be discussed below. We draw attention to the fact that the existence of a phoneme<sub>3</sub> reflects the classical Steintale understanding of sound as something external to the mechanism of the language (language = sound + language mechanism), and the phoneme<sub>3</sub> anthropophonics and psychophonetics, sound and its psychic equivalent. It is characteristic that in later works, phonetics then is included, in the “language mechanism”, in the linguistic form (system); but prevailing (and is decisive for Baudouin's concept) is nevertheless an understanding of phonetics as a component of the language system.

Both explicit concepts - both the phoneme<sub>1</sub> and the phoneme<sub>2</sub> - are largely due to the idea of the functional use of the phoneme to distinguish between words and morphemes, coming from Humboldt. We have already talked about the form in which this idea appeared in the pre-philological period. In general, we find such statements much more often, what is customary to think. So, in the lectures of 1888. Phonemes are understood as “signs, signs of morphemes (meaningful words)” (Baudouin, 1963, p. 125). The article “On the problems of linguistics” raises the question: “What role does the difference between tones or sounds play in distinguishing the meaning of words ...?” (Baudouin, 1963, p. 213). Wed also an indication of the possibility of using pronunciation-auditory representations as “exponents of extra-linguistic differences” (Baudouin, 1963, p.186).

The concept of distinctive, i.e. the negative function of the phoneme is found in the works of Baudouin, however, only sporadically, while the teachings on the “morphologization” and “semasiology” of phonemes come to the fore, that is about their positive function. “The very existence of the phoneme according to Baudouin is due to its functional significance: the facultative nature of the mobilization of invocative and auditory elements is closely related to the degree of their morphologization and semasiology” (Baudouin, 1963, p.198). It is precisely the fact that the phoneme can serve as the identification of the morpheme (word) that Baudouin considers a specific feature of the phoneme, following Humboldt in this.

This rich idea is especially significant because “morphologization” and “semasiology” for Baudouin are equivalent to “socialization”. Having become a sound, a phoneme becomes “something completely alien to the psycho-social essence of linguistic thinking” (Baudouin, 1963, p. 280); “all ... associations leading to phonetization, morphologization and semasiology ... or socialization” (Baudouin, 1963, p. 280). S.I. Bernstein, as it seems, rightly sees in the above statements by Baudouin "a categorical refutation, as according to Baudouin, language as a social phenomenon is replaced by individual language thinking" (Baudouin, 1963, p. 4). Such an understanding once again and with particular clarity testifies to Baudouin’s ideological proximity to Humboldt, for whom the “design” of sound material was also an act of socialization.

Baudouin’s doctrine of morphologization and semasiologization not only does not contradict the teachings of L.V. Scherba on the distinguishing function of the phoneme, but suggests the presence of such a function in the phoneme. Not to mention the fact that thoughts about using a phoneme for distinguishing are plentifully scattered according to Baudouin’s works, Shcherba’s definition of a phoneme as “the shortest general phonetic representation of a given language that can be associated with semantic concepts and differentiate words” (Baudouin, 1963, p. 14), explicit emerging from the entire phonological concept of Baudouin. By the way, Baudouin, clearly independent of Saussure, speaks of phonemes as “linguistic values” (Baudouin, 1963, p. 276).

## **Conclusion**

Thus, the main characteristic properties of the phoneme are as follows:

1. Phoneme - The smallest sound speech unit of a given language.
2. Replacing one phoneme with another, adding a phoneme (phonemes) or reducing their number in a word, you can show a change in the meaning of the word or the form of the word.
3. Within one language, each phoneme is opposed to the other phonemes of the given language.

The doctrine of the phoneme is one of the achievements of our national linguistics. It arose in a long time and improved and deepened in linguistics. The practical significance of this concept for establishing a sound system, for building and reforming spelling, and for other tasks of practical linguistics is very great.

The literature uses the terms phonology and phonetics, and they often turn out to be opposed to each other. Then the word "phonology" is understood as studying the system of phonemes of a particular language, primarily from the point of view of their semantic functions in the language; It goes without saying that the concept of “phoneme” is the main, guiding one. The term “phonetics” is then used to mean an auxiliary discipline that studies sound material from the point of view of the anatomical and physiological.



The practice of research and teaching leads us to a combination of both concepts as complementing one another, provided that the concept of “phoneme” is the leading one. In our country, the term “phonetics” is used as the name of a scientific discipline, as well as in textbooks and programs, and it is assumed that it includes both aspects in the analysis of speech sounds - both phonetics and phonology. The phonological aspect is guiding in this case, since the semantic role of the sound of speech is its most significant property.

As the adjective words “phonological” and “phonetic” are used with us often; they are used to indicate that in the first case it is precisely the phonemic qualities of the sound phenomenon that are meant, its ability to influence the meaning of the word, in the second case we are talking about the anatomical and physiological properties of sound. Both concepts are used when describing the system of phonemes, when distinguishing between categories of pronunciation errors and in other cases.

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