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ПОШАГОВАЯ МЕТОДИКА АНАЛИЗА ЯДЕРНЫХ ТОНОВ И ИХ ФУНКЦИЙ (НА МАТЕРИАЛЕ ДИСКУРСА ПУБЛИЧНЫХ ОБРАЩЕНИЙ Д. КЭМЕРОНА)[1]

КЛЮЧЕВЫЕ СЛОВА: интонация; ядерные тоны; автосегментно-метрический анализ; синтагма; функции; дискурс публичных обращений.

АННОТАЦИЯ. В данной статье исследуется интонационная сторона дискурса Д. Кэмерона. Автор настоящей статьи делает акцент на том, что при анализе интонационной группы (синтагмы) необходимо обращать особое внимание на ядерные тоны, так как они характеризуются большей семантической нагрузкой в дискурсе. В работе также предлагается и описывается пошаговая методика анализа ядерных тонов, которая включает положения автосегментно-метрической теории изучения интонации с целью описания плана выражения тонов. Автор также считает важным учитывать регистр и диапазон интонационного рисунка, так как оба явления не рассматриваются автосегментным направлением, и предлагает использовать ряд диакритических символов для их обозначения. Устанавливается, что описание форм ядерных тонов в рамках автосегментного подхода имеет особую практическую ценность, так как с использованием данной нотации в последнее время разрабатываются специальные транскрипционные системы, целью которых является обучение интонации того или иного языка. При описании функциональной стороны учитываются труды отечественных и зарубежных лингвистов. В заключении сделан вывод о том, что тоны H*L, L*H и H*LH можно считать доминирующими в рассматриваемом выступлении Д. Кэмерона, так как они выполняют ряд важных функций. В работе также отмечается, что максимальный эффект достигается за счет использования этих ядерных тонов в комплексе друг с другом. В дальнейшем автор планирует анализ ядерных тонов в комплексе с предтерминальной частью интонационной группы, что позволит дать более точную и комплексную интонационную составляющую дискурса Д. Кэмерона. Полученные в работе результаты вносят вклад в теорию политической коммуникации и могут быть полезны лингвистам, занимающимся анализом интонации.

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THE STEP-BY-STEP METHODOLOGY OF ANALYZING NUCLEAR TONES AND THEIR FUNCTIONS (AS EXEMPLIFIED BY DAVID CAMERON'S DISCOURSE OF PUBLIC SPEECHES)

KEYWORDS: intonation; nuclear tones; autosegmental-metrical analysis; syntagm; functions; discourse.

ABSTRACT. The article deals with the intonation aspect of D. Cameron's discourse. The author of the paper emphasizes the fact that in analyzing a particular intonation group one should pay special attention to its nuclear tones, since they are considered to be the most meaningful elements of the intonation group. Then the author proposes and describes a step-by-step method of analyzing nuclear tones, which is based upon the autosegmental approach to intonation. The author also recommends taking into account the register and the range, which are not considered by the autosegmental approach, and introduces a set of special diacritics for their representation. Furthermore, the article highlights that the practical value of the approach mentioned above is of great importance, as it is used to create different transcription systems in order to teach intonation of this or that language. In describing the functional aspect of nuclear tones, the author takes into consideration some works by Russian and foreign linguists. At the end of the article the author concludes that the tones H*L, L*H and H*LH may be regarded as the most frequent in the analyzed speech by D. Cameron, since they carry out a number of significant functions. The paper also emphasizes the fact that the maximum effect is achieved when these nuclear tones are used together with each other. In future, the author is planning to analyze nuclear tones together with the pre-nuclear part of the intonation group, which will enable him to give a more in-depth analysis concerning D. Cameron's intonation. The results of the given research contribute to the theory of political communication, and they may be of use to linguists investigating intonation.

Nowadays Political Linguistics pays close attention to the spoken aspect of a politician's speech activity which cannot exist without intonation. According to L. N. Popov, in any tone, in actual intonation one can find the full diversity of political discourse, which enables us to precisely and objectively determine his/her motives, aims, interests and predict the results of this or that politician's speech activity [4, p. 131]. Thus, the analysis of intonation structures can give a more accurate description

of a politician's discourse, since intonation has a number of functions.

Before we start dealing with functional characteristics of intonation, it's worth paying attention to the main approaches to the description of the intonation structure. At the moment one can talk about the following approaches in linguistics: 1) prosodic or contour (H. Sweet, D. Jones, G. Palmer, I. Ward, L. Armstrong, R. Kingdon, J. O'Connor, A. Gimson and others); 2) phonemic or level (K. Pike, L. Bloomfield, H. Gleason and others); 3) autosegmental-metrical (R. Ladd, J. Pierrehumbert, C. Gussenhoven and others). Let us consider in detail the autosegmental approach proposed by J. Pierrehumbert since we are going to use it later in describing the form of nuclear tones. J. Pierrehumbert's theory incorporates the approaches of autosegmental and metrical phonology. It also adopted some methods of the level (phonemic) approach, though it makes use of only two levels – "High (H)" and "Low (L)". Such a system of describing intonation includes:

• models showing the main melodic contours of this or that language in the form of the sequence of such levels as H (high) and L (low);

• a number of rules that make it possible to apply these sequences to the recorded text.

The melodic structure of a phrase comprises a number of successive phonologically important elements. In the English language they are pitch accents, or stressed syllables, and edge-tones that indicate the transition from one intonation group to another.

In the framework of this autosegmental approach a fall-rise tone, for example, can be represented in the following way:

\/*Perhaps*

H*LH (where the symbol «*» shows the position of the stressed syllable).

The same tone form can look like this:

\/*Credible*

H* L‾H% (where the symbol «*» indicates the stressed syllable, «‾» – the post-stressed syllable, and «%» – the edge-tone on the final syllable).

Possible combinations of the above mentioned tone-units form the grammar of an intonation phrase which consists of the following four components:

{%H, %L} (initial tone) {H*, L*, H*+L, H+L*, L*+H, L+H*} (pitch accents) {H-, L-} (phrase accents) {H%, L%} (final tones)

For instance, the English syntagm *They work* can have such a representation:

They `work

%H H*+L L%

Such an approach enables scholars to carry out a more comprehensive analysis of intonation patterns, but, unfortunately, it focuses on the description of formal characteristics of tones and doesn't take into consideration their functions or meaning. However, it should be noted that some scholars use this approach to verify the data they have got. But despite the mentioned drawback, the results that can be achieved by using this method have a great practical value, because on the basis of the given notation lately there have been developed special transcription systems, the aim of which is to teach intonation of this or that language. Here we are talking about such systems as ToBI (the English languages, its variants and some other languages) and ToRI (the Russian language). That's why in this paper the form of nuclear tones will be described within the framework of the autosegmental-metrical approach with the aim of introducing our results into teaching Practical and Theoretical Phonetics.

Moving on to the functional aspect (semantics) of intonation, we should acknowledge that the number and the nature of functions vary. Thus, N. D. Svetozarova singles out five functions:

1) to organize and fragment an utterance;

2) to establish different degrees of the relation among the fragmented units;

3) to form and oppose utterance types (together with their syntax and vocabulary);

4) to manifest some relation among the elements of an intonation group ("new information"-"old information");

5) to express different emotions and attitudes [5].

N. V. Cheremisina-Enikolopova states that in different languages intonation performs the following functions:

1) communicative;

2) phonological (meaning-differentiating);

3) culminative;

4) synthesizing (combinative);

5) delimitative;

6) emotive;

7) expressive [6, c. 19].

Also, the scholar adds such functions as pragmatic and aesthetic.

Linguists abroad talk about such functions of intonation as:

1) grammatical [7; 8; 9; 10; 11; 17];

2) attitudinal [13; 8; 9; 16; 17];

3) discursive [8; 9; 12; 15; 17];

4) pragmatic [9; 17].

Some of these scholars also single out:

5) psychological [17];

6) indexical [8; 9; 17];

7) cognitive [17].

Taking all this into consideration here arise a few questions:

1. By which components of intonation are such functions fulfilled?

2. Which means are more frequent and important?

3. Which functions of intonation does D. Cameron want to use in his discourse?

Answering these questions we can say that the fulfilment of these functions becomes possible due to such components of intonation as tempo, timbre [6, p. 24], accent [3, p. 382]. According to S. V. Kodzasov and O. F. Krivnova, the most important functions of intonation are carried out by accents, the main feature of which is a tone (pitch) change [3, p. 382]. Consequently, we may conclude that in describing intonation one should pay attention to the tone, because it is one of the main ways to perform this or that function. In this paper we pay attention to nuclear tones, since they are considered to be the most significant in terms of semantics and no utterance can exist without such tones.

Most linguists single out the following nuclear tones in English: level, fall, rise, fall-rise, rise-fall and rise-fall-rise. This classification is based on different tone movements. In addition, tone forms can be classified according to: a) the presence or absence of changes in the tone (kinetic or static); b) the register (high, middle, low); c) the range (narrow and broad).

Having scrutinized some literature [1, 2, 17], we can talk about the following functions of English nuclear tones:

1) **fall (H*L):** completeness, introduction of new information (rheme), insistence, intensification (emphasis), confidence;

2) **rise (L*H):** question, surprise, distrust (skepticism), incompleteness, interest (in the situation and your interlocutor's reaction), enumeration;

3) **level (H*H or L*L):** tension, incompleteness, absence of continuation;

4) **fall-rise (H*LH):** polite remarks, implication, contrast, reservation, old information (theme);

5) **rise-fall (L*HL):** impressing your interlocutor (pragmatic function), objection, disapproval, abdication of responsibility;

6) **rise-fall-rise (L*HLH):** astonishment, intensified degree of emphasis.

Each of the above-mentioned tones can be different in the register and the range.

During the analysis of our material, we developed a step-by-step methodoly with the help of which we analyzed the forms and functions of the nuclear tones found in D. Cameron's political discourse. This methodology includes the following steps:

Step 1. Listen to the whole recorded text. Write a script if it's not provided. Listening to the audio again, divide the text into intonation groups (syntagms). Using the computer program Praat check whether your division is correct. Every syntagm must be saved separately on your computer in order to make your fur-

ther analysis of the tones much more convenient.

Step 2. Find the nuclear tone in every intonation group and with the help of phonemes and/or graphemes indicate where this or that nuclear tone is located. Save this file as a picture.

Step 3. Using J. Pierrehumbert's notation identify the form of the tone you are dealing with. If you want to show some additional features of your nuclear tones (the range and the register), we propose the following diacritics (Table 1).

Table 1

Register	Range
"l" – low	"n" – narrow
"m" – middle	"b" – broad
"h" – high	*e.g.* ^{l}H*L^n – low-fall
e.g. ^{l}H*L – low-fall	(narrow variation)

Step 4. Identify and comment on the function(s) that this nuclear tone carries out. Compare these functions with those suggested by the linguists (see above). If there is some difference, you need to explain it.

Step 5. Group the nuclear tones according to their forms and functions. Count the nuclear tones in each group. Determine their frequency and explain the reasons for that.

Let us consider the given methodology using D. Cameron's speech of March 3rd, 2013. The length of the audio is 29 minutes and 50 seconds.

Having analyzed the Prime Minister's performance we found such nuclear tones as H*L, L*H, H*LH, L*HL and H*H. We did not use the diacritics mentioned above because in this material, the changes found in the register and the range did not have a significant influence on the meaning of the nuclear tones.

Now let us discuss the results we obtained during the analysis.

The H*L tone (Figure 1) is the most frequent nuclear tone in D. Cameron's speech since it comprises 45 %. Figure 1 shows the intonogram of the phrase *more of*, which can be found in the example below:

*«...because this is exactly the sort of business Britain needs **more of**: making more things, designing more things, inventing more things, exporting more things...» (David Cameron Economy speech, 2013).*
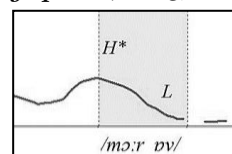

Figure 1

As we managed to establish, this tone can have different functions in the discourse of the

Prime Minister (they are given in Table 2 below), but in the context provided it has a culminative function (emphasis). This emphasis can be intensified in some other examples due to the register being fairly high. Furthermore, it should be pointed out that this tone was also used in the enumeration of facts, which is usually characteristic of the L*H tone. This application of this tone can be considered as a kind of tactics: not only does D. Cameron want to enumerate these facts, but he also wishes to urge his audience to agree with him that Great Britain needs to create, invent, export more things, in other words, here we are talking about the pragmatic function of this tone.

Figure 2 gives us the intonogram of the word *month* in the following example:

«Families are struggling with the bills at the end of the __month__. Some are just a paycheque away from going into the red. Parents are worried about what the future holds for their children» (David Cameron Economy speech, 2013).
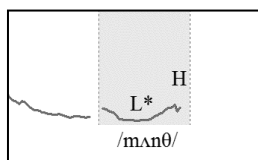

Figure 2

This tone is the second one in terms of frequency and it constitutes 25%. In the given context it is used as a sort of enumeration of the problems the British are facing now: paycheques, debts, their children's uncertain future etc. It is also noteworthy that this tone was used when some negative aspects of the former economic policy were enumerated, that is to say, by applying this tone D. Cameron wanted his audience to understand that the previous policy was quite ineffective, that this policy led to a great number of deficit problems in the UK.

Figure 3 shows the intonogram of the word *plan* in the context that follows:

«But I'm here to say that's not going to happen. Because we have a __pla__n to get through these difficulties – and to get through them together. It's a plan to fix the fundamental problems in our economy, to get the jobs and growth that will make our country a success in the Global Race…» (David Cameron Economy speech, 2013).
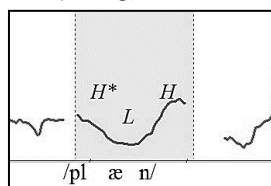

Figure 3

The present tone performs a function of emphasis: D. Cameron wants to draw attention to his speech and says that they have some plan that will allow them to solve the problems connected with their economy, jobs and so on.

The frequency of this nuclear tone is just about 14%, but the pragmatic potential is rather high and obvious. In most of the examples the tone is broken: the fall is on one word, while the rise is on the other. With the help of such a complex tone D. Cameron talks about the positive aspects of their new economic plan which has already proved fruitful and considerably reduced the number of problems.

In Figure 4 we can see the intonogram of the L*HL tone on the word *vital*:

«Second, with the banking system badly damaged it is __vital__ to recognise that you need more than just fiscal responsibility to turn low interest rates into the affordable loans essential for businesses…» (David Cameron Economy speech, 2013).
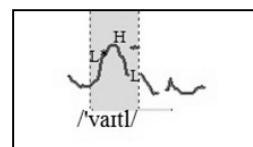

Figure 4

This tone is also used as emphasis in order to draw attention and point out the fact that it's essential to take steps regarding the affordable loans that are so important for businesses.

The H*H tone is the least frequent one (6%). As far as its functions are concerned, here we can talk about such as incompleteness, a positive assessment and preparation of the audience for some new information. Figure 5 shows the intonogram of the word *here* which is found in the context below:

«Can I say what a pleasure it is to be here, and what a pleasure it is to be __here__ in a business like this?» (David Cameron Economy speech, 2013).
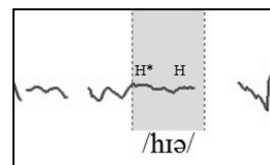

Puc. 5

In this context the function of the tone is to prepare the public for the information which will be delivered after this tone. Owing to such a tone there is some tension or even interest in what D. Cameron is about to talk about next.

To sum up what we have described in the article we propose the table below (Table 2) where you can find the functions that have been discussed so far and some others.

Table 2

Tone	Number (%)	Functions
H*L	316 (45%)	emphasis, the degree of which is intensifies because of the register being high, enumeration of positive strategies, to urge smb to agree with you (pragmatic function), categorical statement, explanation of the wrong tactics on the part of the Government and the people, personal disapproval (attitudinal function), statement etc.
L*H	175 (25%)	enumeration of mainly negative facts and factors, strategies, personal comments and so on.
H*LH	98 (14%)	emphasis, drawing attention, focus on a) the former strategy being ineffective but the new plan being more advantageousакцент; b) the problems which are supposed to be tackled (pragmatic function)
L*HL	70 (10%)	emphasis, focus on statistics, surprise (attitudinal function) etc.
H*H	43 (6%)	incompleteness, tension and interest and so on.

As we see from the table above, the functions of the H*L tone are the most important ones for D. Cameron than those of the H*H tone. The Prime Minister finds it important to urge his audience to agree with him, that's why he uses this tone so often.

In the table we mentioned such tones which are not singled out by the above mentioned scholars. Therefore, we can conclude that the use of this or that tone in the function not typical of it (see Table 2) is a distinctive intonation feature of the Prime Minister's discourse.

In conclusion, we can state that the first three nuclear tones should be considered the main ones since they fulfil a number of functions. It should be noted that the maximum effect is achieved when these nuclear tones are used together in D. Cameron's discourse.

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