

COMPOUND SYSTEMS OF PRETONIC VOCALISM AFTER PALATALIZED CONSONANTS IN RUSSIAN DIALECTS: A SYNCHRONIC AND DIACHRONIC ANALYSIS

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ABSTRACT

The paper presents a new approach to the analysis of compound patterns of pretonic vowel neutralization after palatalized consonants in Russian dialects (the so-called Dissimilative-Attenuated and Attenuated-Dissimilative systems).

The approach takes into account *both* the quality of the stressed vowels and the consonantal environment in the positions before vowels of different heights.

In addition, the diachronic data are provided (for the purpose of showing one of the probable paths of pretonic vowel evolution).

The method makes it possible to characterize compound types of pretonic vocalism with a high degree of accuracy and to explain some phonological regularities in Russian dialects.

Keywords: Russian dialects, vowel dissimilation, attenuation, evolution of unstressed vowel systems

1. A SYNCHRONIC ANALYSIS

The paper is devoted to compound patterns of vowel neutralization in the immediately pretonic syllable after palatalized consonants in Russian dialects (or so-called *jakanje*). It deals primarily with the systems based on two conditioning factors: dissimilation and attenuation. Neutralization is widespread in Southern and some Central Russian dialects. In these dialects all non-close phonemes neutralize to [a], [i] or [ɛ] (the type of pretonic vowels is determined by the particular patterns).

The term *dissimilation* is used when the type of pretonic vowels depends inversely on the height and length of the stressed sound, e.g. open pretonic vowels arise before the close sound and vice versa. There is a well-known correlation between vowel height and duration in Russian: close vowels are shorter than open sounds [1] p.447-448.

There are also C-to-V coarticulatory effects in dissimilative systems (for example, the [a] > [æ] shift in the context C^j__C^j), but they are not

phonologically relevant and do not block vowel dissimilation. *Examples:* [sʲimʲja] ‘family’ nom. sg., [sʲamʲju] (or [sʲæmʲju]) ‘family’ acc. sg.

The term *attenuation* is used when the type of pretonic vowels depends entirely on the quality of the subsequent consonant: for instance, [i] arises before palatalized sounds, and [a] arises before non-palatalized consonants. *Examples:* [sʲimʲja] ‘family’ nom. sg., [sʲaʲstra] ‘sister’ nom. sg., [sʲimʲju] ‘family’ acc. sg., [sʲaʲstru] ‘sister’ acc. sg.

There are a number of approaches to the analysis of the compound (or "mixed") systems. For instance, in [2] p.48-49, they are treated as a combination of a dissimilative pattern before non-palatalized consonants (i.e. in the context C^j__C) and an attenuated pattern before palatalized sounds (in the context C^j__C^j): the so-called *Dissimilative-Attenuated* systems; or as a combination of an attenuated pattern in the context C^j__C and a dissimilative pattern in the context C^j__C^j: the so-called *Attenuated-Dissimilative* types of vocalism. Thus, all immediately pretonic positions are divided into two main domains (C^j__C and C^j__C^j).

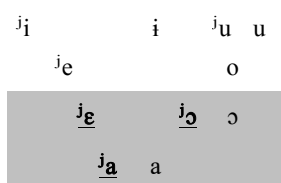
However, the analysis of “simple” dissimilative systems and compound systems with assimilation before [a] (the so-called *Assimilative-Dissimilative* types) traditionally takes into account the positions before different types of stressed vowels (not before consonants) as the main domains. As a consequence, there is a lack of correspondence between descriptions of vowel systems in the pretonic syllable. For instance, the neutralization to [a] before close vowels ([i, ɨ, u]) is treated as dissimilation in the case of the Zadonsk, Obojan or Zhizdra dissimilative systems; but in the case of the Attenuated-Dissimilative types it is treated as a combination of attenuation in the context C^j__C and dissimilation in the context C^j__C^j. On the other hand, the neutralization to [a] before non-palatalized consonants irrespective of the height of the stressed vowels is traditionally treated as attenuation in the case of the Attenuated-

Dissimilative types and as a combination of dissimilation and assimilation in the case of the Novoselkov or Kidusov Assimilative-Dissimilative systems (see figures below).

The method suggested in this paper makes it possible to avoid these contradictions. The positions before stressed vowels of the same height (i.e. close, close-mid and so on) are treated as the main domains in *all* compound types. This unified approach shows the similarity between a whole range of vocalic systems.

The figures below present models of compound systems (we use the traditional names).

Figure 1: Attenuated-Dissimilative II.



This figure and the following figures show stressed vowels (in a number of Russian dialects there are still seven-vowel systems under stress; [i] and [i̯] are allophones of /i/).

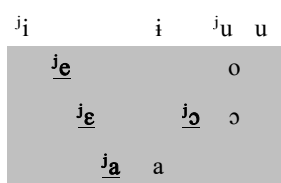
The symbols in bold (they are also underlined) indicate that before these stressed vowels non-close phonemes neutralize to [i] in the pretonic syllable (before other stressed sounds, [a] arises).

The grey background colour indicates *the zone of attenuation* (i.e. the zone of the phonologically relevant consonantal influence). The lack of a background colour indicates *the zone of height (and length) dissimilation*.

Examples: [s'im^jja] 'family' nom. sg., [s'a'stra] 'sister' nom. sg., [s'am^jju] 'family' acc. sg., [s'a'stru] 'sister' acc. sg.

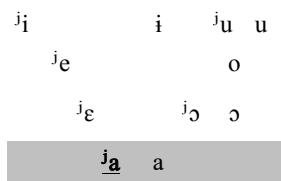
As shown in the figure, the neutralization to [a] before close and close-mid vowels in the context C^j__C cannot be treated as attenuation, because [a] arises in the context C^j__C^j in the same positions. The neutralization to [i] in the context C^j__C^j before open-mid and open vowels cannot be treated as dissimilation, because in the context C^j__C before vowels of the same heights, [a] is pronounced (the type of pretonic sounds depends entirely on the consonantal environment).

Figure 2: Attenuated-Dissimilative III.



In this system the zone of attenuation is larger and spreads to the position before close-mid stressed vowels.

Figure 3: Attenuated-Dissimilative I.



In the Attenuated-Dissimilative system I attenuation spreads only to the position before open vowels.

In all Attenuated-Dissimilative types there is dissimilation before close stressed sounds. Systems with the different "vertical structures" are discussed further.

Figure 4: Dissimilative-Attenuated I.

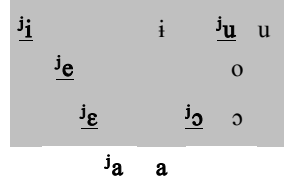
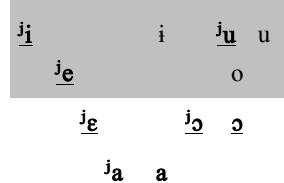


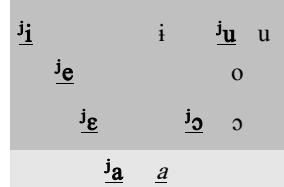
Figure 5: Dissimilative-Attenuated II.



In the Dissimilative-Attenuated systems the zone of attenuation includes the position before close sounds, as well as the position before close-mid (D-A II, it is rarely attested) or both close-mid and open-mid vowels (D-A I).

Examples: [s'im^jja] 'family' nom. sg., [s'i'stra] 'sister' nom. sg., [s'im^jji] 'family' gen. sg., [s'a'stri] 'sister' gen. sg.

Figure 6: Chukhloma (Dissimilative-Attenuated III).



The underlined symbol in italic indicates that in the pretonic syllable before this stressed vowel ([a] after non-palatalized consonants) all non-close phonemes neutralize to [ɛ].

The Chukhloma type is also fairly rare. Its speciality lies in the fact that there are two relevant

factors in the position before open stressed sounds: attenuation ([ɛ] arises in the context C^j__C, whereas [i] is pronounced in the context C^j__C^j: [rʲɛ'ka] 'river' nom. sg., [sʲimʲja] 'family' nom. sg.); and dissimilation (before [a] open vowels are forbidden).

The combination of these two factors is indicated in the figure above by the light grey background.

There are some other systems of pretonic vocalism that may be partially similar to the types discussed above. Traditionally they are treated as dissimilative or assimilative-dissimilative, but in fact their organization is more complex.

Figure 7: Sudzha.

j _i	i	j _u	u
<u>j_e</u>			o
<u>j_ɛ</u>		<u>j_ɔ</u>	ɔ
<u>j_a</u>	<u>a</u>		

Figure 8: Dmitrov.

j _i	i	j _u	u
<u>j_e</u>			o
<u>j_ɛ</u>		<u>j_ɔ</u>	ɔ
<u>j_a</u>	<u>a</u>		

In the Sudzha, Dmitrov and Shchigri systems, attenuation spreads to the positions before open-mid and/or close-mid stressed sounds (the positions before close and open vowels are not involved). Systems with dissimilation in the positions before close-mid and/or open-mid vowels and attenuation in the positions before both close and open sounds are unattested.

Figure 9: Novoselkov (Assimilative-Dissimilative).

j _i	i	j _u	u
j _e			o
<u>j_ɛ</u>		<u>j_ɔ</u>	ɔ
<u>j_a</u>	<u>a</u>		

Figure 10: Kidusov (Assimilative-Dissimilative).

j _i	i	j _u	u
<u>j_e</u>			o
<u>j_ɛ</u>		<u>j_ɔ</u>	ɔ
<u>j_a</u>	<u>a</u>		

Cross-hatching indicates *the zone of assimilation* ([a] arises before the stressed [a] irrespective of the consonantal environment).

The Kidusov and Novoselkov systems may be described as *assimilative-dissimilative-attenuated* (as shown in the figures, there are three relevant factors in their structures).

It is well known that in Russian [e], [ɛ] scarcely occur after hard consonants and [o] usually does not occur after palatalized sounds. Despite this, the principle governing neutralization before close-mid and open-mid vowels in some systems above is treated as attenuation, because we assume that the prevailing factor is the height of the vowel, not its certain type (for instance, in the case of [e] and [o] it is important that both are close-mid).

2. A DIACHRONIC ANALYSIS

Data from modern East Slavic dialects and ancient manuscripts show that:

- dissimilative patterns are more archaic than attenuated
- at an earlier stage non-close vowels neutralized to [a] and [ɛ] or a similar non-close sound.

Types with the neutralization to [a] and [ɛ] are attested in some modern dialects (for example, the Zadonsk system, probably one of the most archaic patterns of pretonic vocalism).

Figure 11: Zadonsk (Dissimilative).

j _i	i	j _u	u
j _e			o
<u>j_ɛ</u>		<u>j_ɔ</u>	ɔ
<u>j_a</u>	<u>a</u>		

In these systems there is a maximum difference between pretonic and stressed vowels in the domain before close sounds: [a] arises before [i, i, u]. This fact may explain the resistance of dissimilation in the domain in question (compound systems with attenuation in the position before [i, i, u] are rather rare). In the positions before other vowels, it can be more easily replaced by attenuation or assimilation (in the case of the stressed [a]). Attenuation is based on the [a] > [æ] > [ɛ] > [i] change in the context C^j__C^j and on the [ɛ] > [æ] > [a] change in the context C^j__C due to the consonantal influence [6] p.50. It is noteworthy that Russian non-palatalized consonants are often velarized [2] p.76 and cause the adjacent vowels to become backer and lower. At the final stage the "simple" attenuated system can be formed.

Figure 12: Attenuated.

<u>j</u> i	i	<u>j</u> u	u
	<u>j</u> e		o
	<u>j</u> ε	<u>j</u> ɔ	ɔ
	<u>j</u> a	a	

Thus, the dependence on the duration and height of the stressed vowels is replaced by the dependence on the consonantal environment.

Data from modern dialects support this hypothesis. For instance, the Zadonsk system can change to the Attenuated-Dissimilative type, the Kidusov and Chukhloma systems change to the Attenuated type [1] p.424, [4] p.95-96, [6] p.49-50.

There are similar consonantal effects in other languages. For example, palatal sounds attenuate V-to-V coarticulatory effects in Catalan [5]. In Austronesian languages, low vowel dissimilation (i.e. low vowel raising before [a]) can be blocked by the adjacent velar or glottal consonants [3]. As noted above, Russian velarized consonants can exert the same influence.

The type of pretonic sounds plays a crucial role in the evolution of unstressed vowel systems. There is no regular [i] > [ε] change in Russian. Therefore, the A-D types are based on the systems with the neutralization to non-close sounds. If the pretonic [ε] changes to [i] (so that non-close phonemes neutralize to [a] and [i]), attenuation can spread only to the positions with the pretonic [a]. Other domains become “conserved” (i.e. there is no possibility for the phonetically based change): for example, the positions before open and open-mid vowels in the D-A II system or in the Dmitrov system, the position before [a] in the D-A I system.

Dissimilation in the domain before close vowels can not only be resistant, but also occur at the earliest stage of vowel neutralization. There is a system with the neutralization to [a] only in the positions before [i, i̯, u]; in the domains before other stressed sounds the /a/-/ɔ/-/ε/ contrast is not neutralized (the Polnovsk type [2] p.51). *Examples:* [sʲɔ'stra], [sʲemʲja], [rʲa'dna] ‘sackcloth’ gen. sg., [sʲa'stri], [sʲamʲji], [rʲa'dnʲina] ‘sackcloth’ nom. sg.

3. CONCLUSION

There are a large number of partly similar compound systems of pretonic neutralization based on dissimilation and attenuation. All of them (including the Sudzha, Shchigri and Dmitrov types) may be described as *dissimilative-*

attenuated. These systems differ in the degree of attenuation spreading and their “vertical structure”.

The suggested method makes it possible to reveal and explain the phonological regularities in Russian dialects:

- attenuation is rather rare in the domain before close vowels
- dissimilation is resistant in this domain
- dissimilation is fairly unstable in the domains before close-mid and open-mid vowels.

Thus, the approach demonstrates the importance of the main domain choice for phonological analysis of compound vowel neutralization systems.

4. REFERENCES

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