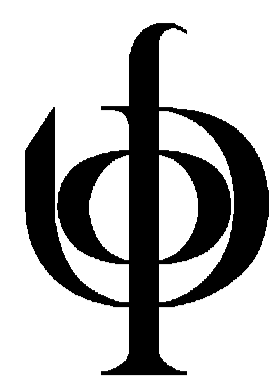


# THE DEVELOPMENT OF *AKAN'JE* IN RUSSIAN: NEW DATA



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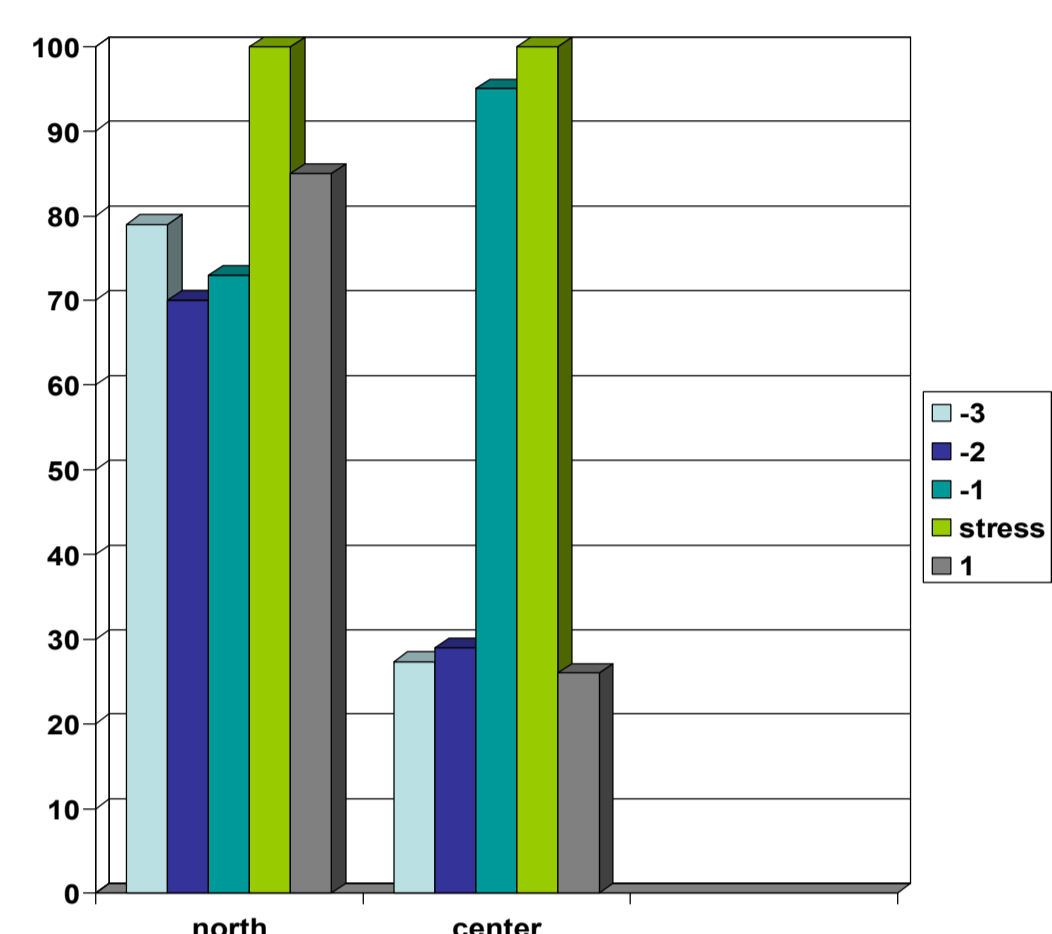
## Abstract

The paper deals with the problem of historical development of unstressed vowel systems in Russian. A phonetic explanation for the development of existing types is suggested on the basis of a hypothesis that assumes the priority of the non-dissimilative type. A new, probably most archaic, type of unstressed vowel system in Russian is shown to provide another argument in favour of the suggested explanation.

## Introduction

The main difference between all Russian dialects is the presence or absence of a **prosodic nucleus** (formed by stressed and pretonic vowels opposed to all other vowels in quantity and quality).

**Northern** dialects **have no** such a thing, **Southern** and **Central** (including Standard Russian) do **have it**:



Relative duration of unstressed syllables in % from the stressed one (green bar) in modern Northern Russian dialects (left) and Southern/Central Russian dialects (right).

Dialects with prosodic nucleus have vowel **reduction** in unstressed syllables and **neutralization** of unstressed non-high vowels (which may result in [a], called *akan'je*).

Dialects with no prosodic nucleus usually have **no reduction** and **no neutralization** (at least in the pretonic syllable, called *okan'je*).

There are two main types of *akan'je* in Russian:

- **Dissimilative (D)** where the quality (originally quantity) of pretonic vowels ([ə] or [a]) depends on the quality (originally quantity) of stressed vowels (some Southern Russian dialects);
- **Non-dissimilative (ND)** with no such relation (other Southern and all Central Russian dialects, Standard Russian).

Main types of dissimilative *akan'je* after hard consonants are: **D1** [ə] before low [a], [a] elsewhere; **D2** [ə] before low [a] and mid-low [ε], [ɔ], and [a] before high [i], [u] and mid-high [e], [o]; **D3** hypothetical [a] before high [i], [u], and [ə] elsewhere was recently attested for the Boyanovich dialect [1999]:

a	i	u	<b>D3</b>
ə	e	o	<b>D2</b>
ə	ε	ɔ	<b>D1</b>
ə	a		

Black letters: stressed vowels  
 Coloured letters: pretonic vowels for each D-type resp.

It is generally assumed, according to the most widely recognized theory of the historical development of *akan'je* [1915], that the initial type of *akan'je* was D2 one as the result of replacement of tonal accent with dynamic one in a system which preserved Common Slavic distinctions of vowel length (lost in the phonological system) on the phonetic level (with long low, high and mid-high vowels and short mid-low vowels).

We suggest another concept of the historical development of *akan'je*, the main points of which are as follows:

- the initial type of *akan'je* was non-dissimilative;
- the dissimilation of stressed and pretonic vowels in dissimilative models is based on the differences in intrinsic vowel duration, not the distinctions preserved since the Common Slavic period [1916];
- the development of various types of *akan'je* is the result of a specific realization of some tonal sentence accents in most Russian dialects.

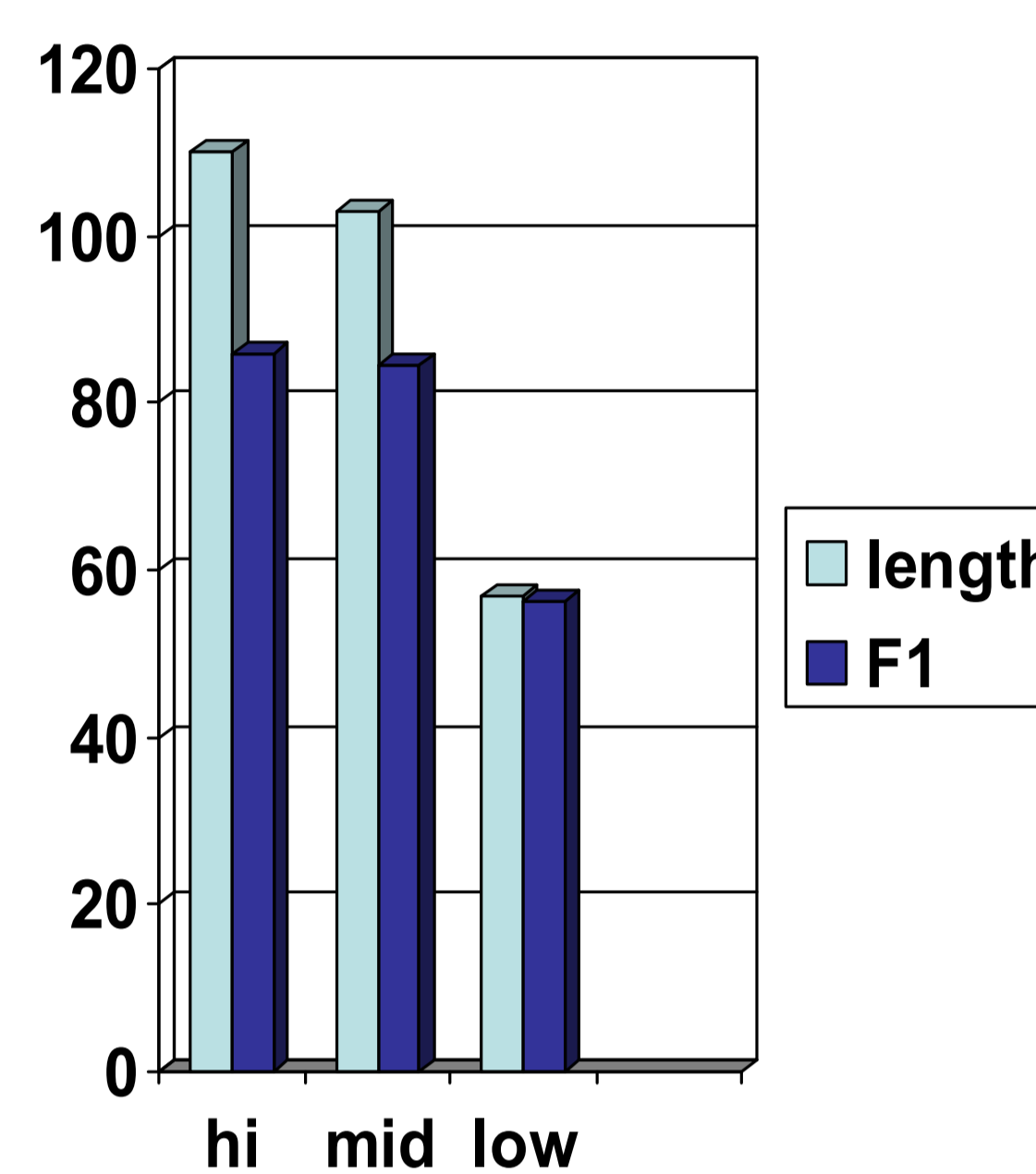
## Results

During our work on a new project *Russian Dialectal Phonetics, a Multimedia Interactive Resource* we found that the qualitative and quantitative differences between long and short pretonic vowels [a] and [ə] in all so far known dialects with D-types is striking, and there is an abrupt change from one vowel to another when the line of phonologization (delimiting vowels with different functional length, see [2007]) is crossed.

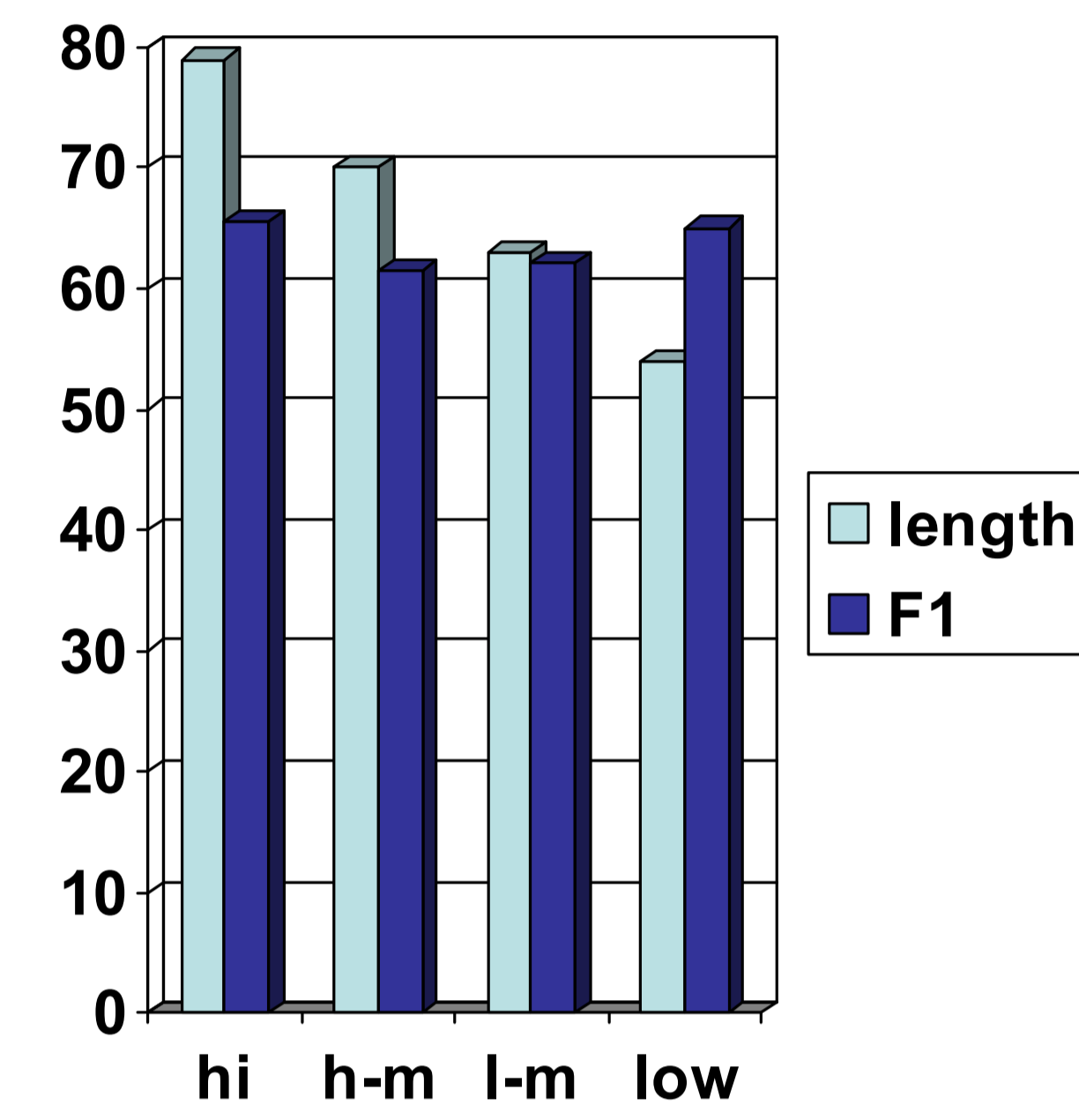
The table below contains, as an example, the data on duration and quality of vowels within prosodic nucleus depending on the quality of the stressed vowel in a **D1** dialect (left) and a dialect where **D3**-type is supposed to be found (right).

D1-type dialect			Assumed D3-type dialect				
a	ε ɔ e o	i u	stressed vowel	i u	ε ɔ e o	a	
57	103	110	duration of pretonic vowel, % of stressed vowel	79	70	63	54
564	844	859	F1 of pretonic vowel, Hz	656	615	621	650

## D1-type dialect



## Assumed D3-type dialect



Length = duration of pretonic vowels (% of stressed vowels)  
 F1 = F1 of pretonic vowels (dHz) before high, mid (high-mid, low-mid) and low stressed vowels

## Conclusions

Thus, texts previously supposed to show **D3**-type of *akan'je* display a completely different situation from those of contemporary **D**-type: qualitative and quantitative differences of pretonic vowels depending on the stressed vowel duration and quality are small, gradual and irrelevant.

It can be suggested that this dialect shows the most archaic type of "dissimilative" *akan'je* with vague coarticulatory dependence of the pretonic vowel on the length of stressed vowel, which has not yet been fixed in the phonological system.

The existence of such a type may be regarded as another argument in favor of suggested explanation of the development of *akan'je* and this type itself may be called **protodissimilative**.

## Examples

**D1** [ə] before low [a], [a] elsewhere:

[b'a'yu / b'a'yu / kək'ras pədb'i'yaju] 'I run, run and finally arrive';  
 [sa'zɔn] ... [kək'ras] 'meters' ... 'exactly'.

**Proto-D** Almost any vowel from [ə] to [a] may be found before every stressed vowel:

[pa'ʃla] 'went'; [pələ'zɪla] 'put'; [ba'bul'a] 'old woman'; [pədaɟ'dətʲ] 'will come';  
 [nəkər'tɔxu] 'on potatoes'.

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