THE CORRELATION OF THE TENSE-LAX CONSONANTS IN SOME RUSSIAN DIALECTS AND IN OTHER SLAVIC LANGUAGES

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ABSTRACT

The speech material of the Northern Russian dialects was investigated. A complex of the phonetic phenomena was found testifying to the existence of the correlation of the tense-lax consonants in those dialects. Since analogous phonetic features are observed in the Western and Southern Slavic languages, it may be suggested that the peculiarity discovered in the Northern Russian dialects is pra-Slavic and pra-Indoeuropean heritage.

1. As we know, the consonants of Standard Russian are opposed on the basis of voicelessness-voiceness. The voiced consonants differ from the voiceless ones also by the level of tenseness: the voiceless consonants are more tense. This is manifested in the greater tension of the muscles of the articulatory organs.

One of the most difficult tasks of instrumental phonetics is the direct establishment of the level of tenseness. However, one can judge of the degree of tenseness or nontenseness on the basis of some inderect data. Specifically, the tense consonants compared to the lax ones are longer and the noise constituting them is more energetic /1/.

In Standard Russian the feature of tenseness is closely related to the feature of voicelessness, and the feature of nontenseness - to the feature of voiceness: tense consonants are voiceless and lax ones are voiced. It should also be borne in mind that voiceness-voicelessness is the major feature in the opposition, while tenseness-nontenseness is an accompanying feature /2/. In some languages these phonetic features are correlated otherwise than in Russian. In such languages tenseness-nontenseness lies at the bottom of the opposition. As examples one can cite English, French, German, Finnish, Estonian and many other languages /1, 3/.

2. So far no Russian dialects have been described where the principle of tenseness -nontenseness of consonants manifested itself differently than in Standard Russian. Such dialects are to be found on the river of Mezen in the Leshukon district of the Arkhangelsk region. Our primary auditory impression was checked instrumentally when the length of consonants of these dialects was measured.

2.1.1. According to the data recieved by Zlatoustova for Standard Russian the length of voiceless fricative consonants in the intervocalic position can vary within the range of 167 mc to 213 mc. The voiced consonants show a variation from 93 mc to 127 mc. The ratio of the length of voiced consonants to that of the voiceless ones is approximately 0.56-0.65 /4, p. 57/.

The proportion of voiceless and voiced fricative consonants in the intervocalic position in the Mezen dialects differs from that in the literary language. The difference is a greater contrast in their length. Thus the length of intervocalic [ʃ] varies within the range of 95-100 mc; while [ʒ] in the same position is characterised by the length of 45-59 mc; the temporaly characteristics of the intervocalic [s] are from 110 to 180 mc, and those of [z] - from 50 to 60 mc. The ratio of the length of voiced consonants to that of the voiceless ones in the Mezen dialects is about 0.46 on the average.

2.1.2.An even greater difference between the literary language and the Mezen dialects can be observed in the stops which are longer in the Mezen dialects.

The length of the voiceless stops differs from language to language. In some languages these consonants have a longer phase of contact, which results in geminates. Estonian and Finnish are examples of this phenomenon. In other languages (English, German) the occlusive consonants have a longer postexplosive phase leading to aspirated consonants.

Both types of prolonging of the voiceless stops can be observed in the Mezen dialects. Thus sometimes these consonants are pronounced with a long contact: [a p̄'ímof, 'ētogo, potō'lok, ka'k̄oi]. But more often the length of the voiceless stops [p, t, k] and [p', t', k'] appears in aspiration: ['phom'or, na'phal, 'naphol; tham, 'thoʒə, photho lok; a'khak, khu'dy, a p'hec-tu, ku'p'hila, 'n'ep'hili; 't'hanut, 'mat'hi; muʒy'k'hi].

In Standard Russian the duration of postexplosive phase of the voiceless stops is quite insignificant: [p, t] - 20 mc, and [k] - 35-40 mc /5/. If one takes into consideration the fact that the duration of [p, t, k] in the intervocalic position varies from 153 to 200 mc /4, p. 571/, then the postexplosive phase of [p, t] is equal to 0.1 of the length of the whole consonant and that of [k] - to 0.17-0.25. According to our data the duration of the postexplosive phase of [p] in the Mezen dialects is 42-95 mc, that of [t] is 65-70 mc, and that of [k] - 54-76 mc. The measurement of their relative length showed that the postexplosive phase of these consonants may constitute from 0.4 to 0.7 of the entire length of the consonant.

2.2.1. One can also see the difference between Standard Russian and the Mezen dialects in the proportion of the consonant length in clusters.

In Standard Russian the first consonant of the cluster is typically shorter than the second one /4, p. 59/. This regularity is proved by our measurements of the consonant length in such groups as [ks], [sk], [ps], [sp], [ksh], [shk], [kt], [ft], [gz], [zg], [zb'], [db]. There is a law in Standard Russian according to which the first consonant cannot be longer then the second one even if the first consonant represents the combination of two identical phonemes: the long consonant loses its length when it occurs beside another consonant; compare: классы [s:] - классный [s] /6, p. 136/.

The situation is quite different with the Mezen dialects, where the first consonant may be much longer than the one which follows. Compare: [uʃ'l̄a, uʃ kom, 'tʃ' is̄ ta, l'es̄'na, p'es̄'kom, f̄su'botu]. The length of the voiceless stops in clusters as well as in the intervocalic position may come up in aspiration or in the longer contact phase: [okh'no ; nak̄'laz'da]. The first consonant is longer than the second one even in the case when the former is a sonorant and the latter a voiceless consonant, while in the intervocalic position the voiced consonants including sonorants are much shorter than the voiceless ones. The average length of the second consonant compared to the first one varies from 0.4 to 0.7. The voiceless stops are nonaspirated in the postconsonant position. Therefore the first or the second position of the consonant in the clusters differs to the tenseness-nontenseness. From this point of view the position of the first consonant in the group is strong, and the second one is weak.

2.2.2. Another peculiarity of the Mezen dialects that is the progressive devocalization of the sonorants. This phenomenon is observed both in the middle of the word and in juncture: ['proʃlyi, 'utrom, 'pr̥amo, d'ek'r'et, sus'l̥on, ùʃ'l̂'i, 'vyp'ĵut, soʃ'jôʃ]. The sâme devocâlization is observed in the sounds of [v, v'], which are pronounced in the dialects; this is also true of the more ancient [w, w']: [kf̂am, dakf̂ l'e'sax, vo'z'it'f̂'lotkax, sf̂o'jo]. Completely voiceless sonorants and [f, f'] according to [v, v'] occur much rarer than partially devocalized sonorants. The instrumental analysis of these sounds showed that such sonorants have voiceless beginning and voiced ending. The degree of the devocalization of the sonorant and [v] in the position after the voiceless consonant in the Mezen dialects depends on the force of tension of the speech organs. When used emphatically or in the strong phrase positions the sonorants are devocalized for the greater part of their duration and the sound [f] is pronounced instead of [v]. In other cases the devocalization may extend over the initial phase of the second consonant only. There may be no progressive devocalization of these sounds in the weak phrase positions.

The strong voiceless consonants may influence not only the next sonorants but also the vowels. In such cases vowels are pronounced without voice though preserving the rest of their typical characteristics: [pr̥ə̂ʒy'la, pr̥'iʃ'lo, 'wyp'ito]. This effect can be observed frequently at the end of syntagma. Sometimes several successive words may be pronounced as if they were whispered, with the strong tension and intensive noise.

In the group of two consonants, as it has been shown above, the first consonant is tense and the second one is lax. That is why if the first sonorant or [v] is following the voiceless consonant the progressive devocalization is observed quite frequently. It almost never happens if the sonorant or [v] is placed after two voiceless consonants: the second sound is lax, it cannot assimilate the next sonorant and [v]; compare: ['trojo-'stroim].

2.3. The prolongêd consonants in the Mezen dialects frequently occur at the end of a word before a pause: [l'es̄, bo'jus', mox̄, 'v'id'iʃ̄]. The stops are pronounced with a long contact and explosion: [i d'ot̄, pe'sok̄] or with aspiration: [thuth, o'p'et'h, poto'lokh]. Quite frequently the voiceless stops are implosive. This may evidently be explained by the fact that the general ab-

atement of the intensity at the end of a syntagma weakens the end of the consonant as well that is why the strength of the contact is greater than the strength of the explosion and the explosion does not take place.
The voiced consonants in the Mezen dialects are lax. They are much shorter than their voiceless correlates. Besides nontenseness manifests itself in the common flabbiness of their articulation. We have often noted the pronunciation of [j] and [ð'] instead of [d]: ['ajila, buð'ot]; [ð] in place of [d]: ['eðak]; [w, w'] in place of [b, b']: [nara'wotu, w'un'tom]; [ɣ] instead of [g]: ['mnoho].
2.4. In some cases in the Mezen dialects the pronunciation of voiced consonant in place of the voiceless ones and vice versa can be observed and also the pronunciation of semivoiced consonants in place of voiceless and voiced ones: ['star'in ga, (g < k), po'tumat' (t < d), po'rato, za'gaðɜvɜl].
2.5. Implosive consonants, spirantization of voiced explosive consonants, interchange of voiced consonants and voiceless ones and the existence of semivoiced consonants have been noticed in different Northern Russian dialects by other dialectologists. The auditioning of the tapes of the Northern Russian dialects accumulated in the Laboratory of experimental phonetics of the Russian Language Institute of the USSR Academy of Sciences showed that they share some other features with the Mezen dialects which have been described above.
3. All this testifies to the fact that in the Northern Russian dialects there exists opposition on tenseness-nontenseness, but not on voiceness-nonvoiceness as is the case in other Russian dialects and the literary language.
When making phonological conclusions some phoneticians proceed from the principle of phoneme neutralization /3,7/. However the fact of neztralization as such cannot always clarify the nature of the phonetic opposition. Thus [t] and [d] coincide in the sound [t] in the final position both in Russian and in German. Yet in Standard Russian the opposition on voiceness-nonvoiceness is considered to be neutralized in the final position, while in German the opposition of tenseness-nontenseness is neutralized in a tense variant. The fact of neutralization is an evidence that the phonemes are paired and that they are opposed on one distinctive feature. But it may mean nothing as to the nature of this feature.
The Mezen dialects as well as the majority of the Northern Russian dialects do not differ from other Russian dialects from the point of view of the nature of neutralization of the consonants discussed above. Here the noise consonants cannot be distinguished in the final and preconsonant position. At the end of the word and before the voiceless consonants they turn into voiceless consonants and before the voiced consonants they turn into voiced ones.
The difference between the two types of dialects lies in how the contrast of the opposed phonemes in the absolutely strong position is realized. In some dialects as well as in Standard Russian the contrast of the consonants on voiceness-nonvoiceness is more evident than on tenseness-nontenseness. In other dialects the contrast of the consonants on tenseness-nontenseness is more evident than on voiceness-nonvoiceness. That is why the opposition of these consonants is rooted in tenseness-nontenseness. The feature which forms the basis of consonant opposition in the absolutely strong position may give up it's place to some accompanying principle under other conditions. Thus in Standard Russian the difference between [p] and [b], [t] and [d], [s] and [z], etc. in whispering, when there is no voice, is evident only from tenseness or nontenseness of the corresponding sounds /6/. In those Northern Russian dialects where the leading principle of phoneme opposition is usually tenseness-nontenseness, in the postconsonant position, where voiceless stops lose aspiration and fricative consonants lose their length, the major contrast between the corresponding sounds is on voiceness-nonvoiceness.
4. What is the origin of the dialect peculiarity described above? Speaking about the vocalization of the voiceless consonants in the intervocalic positions and the existence of the semivoiced consonants some investigators proposed that it is a feature of the Finnish substratum /8/. This proposal has some validity. It is possible that the other features of the described complex are also of Finnish origin.
However there is some counter evidence too. The Komi Republic Academy of Sciences gave us an opportunity to listen to the tapes of different Komi dialects including the dialects on the river of Mezen, neighbouring on the Russian Mezen dialects. In none of these tapes could we find the most typical feature of the Russian Mezen dialects - aspiration of the voiceless stops. Yet some of the manifestations of the opposition on tenseness-nontenseness in the Komi dialects do exist, for example the prolonging of the first consonants in clusters.
There may be another explanation of the described Northern Russian phenomenon. Many indoeuropean languages have the same features. Thus for example the tense voiceless consonants significantly exceed in their length the lax voiced ones; the aspiration of the voiceless stops occurs at the beginning of the word and in the intervocalic positions (while it is absent in the postconsonant position); cf. also the progressive devocalization of the sonorants, the prolonging of the ending consonants, the spirantization of the voiced stops in English and German /9/.
Many of the described phenomena are known in the Slavic languages. According to our data [p, t, k] in Polish are more tense than in Russian. The voiceless stops are aspirated in Polish. There is also the progressive devocalization of the sonorants in some Western and Southern Slavic languages /10/. For Czech the relevance of the opposition on the "lenes-fortes" of the consonants was discussed /11/.
Consequently the discussed features of the Northern Russian dialects connected with the opposition of the consonants on tenseness-nontenseness, may be one more feature linking the Northern Russian dialects with the Slavic West. This feature may be praindoeuropean.

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