

Romanian palatalized consonants¹: A perceptual study

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Abstract

Most consonants in the Romanian inventory are claimed to have a surface palatalized counterpart carrying functional meaning; it is not clear, however, whether the set of palatalized consonants is represented underlyingly. The present study investigated the perception of palatalized consonants based on two experiments. It was found that native speakers can discriminate between plain and palatalized segments, but sensitivity to palatalization decreases when another morphological cue is present. It was further confirmed that the primary place of articulation affects perceptibility. This situation is intriguing from a representational perspective, since neither phonemic nor allophonic status in the sense of a classical analysis can fully describe the behavior of these consonants.

Introduction

Restricted to word-final position, the occurrence of palatalized consonants in Romanian is generally associated with the presence of two homonymous suffixes: the plural for nouns and adjectives (1a), and the 2nd person singular in the present indicative of verbs (1b); hence, palatalized consonants are considered morphologically predictable².

- (1) a. [lup^ɨ] ‘wolves’
b. [sar^ɨ] ‘you jump’

Contrasts in meaning are thought to arise between the inflected form, ending in a palatalized consonant, and the uninflected one³, which ends in a plain consonant, thus resulting in minimal pairs (1a-2a, 1b-2b).

- (2) a. [lup] ‘wolf’
b. [sar] ‘I jump’

Previous accounts. Two different phonetic descriptions prevail regarding these surface realizations: (a) palatalized consonants, in the sense of a secondary palatal feature overlapping with the primary place of articulation, as can be found in Slavic languages; (b) sequences of consonant-glide. More disagreement is found with respect to their underlying representation: palatalized consonants are considered part of the phonemic inventory by Petrovici (1956), while Schane (1971) does not take them to be underlying, but grants the native speaker a special level of awareness at which surface contrasts can be phonemic. Other linguists take palatalization or the final glide to be underlyingly represented as a glide or semi-vowel (Agard 1958, Avram 1991),

or an archiphoneme, sharing features of both /j/ and /ɟ/ (Vasiliu 1990). Finally, there is the view according to which surface palatalized consonants or word-final, post-consonantal glides correspond to an underlying /i/ (Stan 1973, Ruhlen 1973, Steriade 1984).

A Perceptual study

With so many differing views on the theoretical level, the present study approaches the phenomenon of palatalization in a different way. Emphasis is laid on the facts, in the belief that a thorough analysis of the measurable phenomena may serve to settle the disagreements on the phonetic/phonological status of these structures. The current study is aimed at determining whether native speakers can reliably distinguish between plain and palatalized consonants. A secondary goal is to find out whether the primary place of articulation (POA) of palatalized consonants plays any role in perception, as previously demonstrated by Kochetov (2002).

Experiment 1

This experiment tested the sensitivity of native speakers to palatalized segments. Two hypotheses were formulated:

Hypothesis 1. Native speakers are sensitive to (i.e. can reliably identify) both plain and palatalized consonants.

Hypothesis 2. Differences in perceptibility are expected for different POAs.

The stimuli consisted of 36 target words ending in either a plain or a palatalized consonant from one of three different POAs: labial, dental, and post-alveolar. The targets were placed inside a carrier sentence of neutral meaning (“I will choose the word ___ tomorrow.”), and a native speaker of Romanian recorded these sentences and additional fillers.

12 subjects listened to these sentences. They were asked to write down the words they heard before ‘tomorrow’. This task was chosen because Romanian orthography marks the plural of nouns and adjectives, as well as the 2nd person of verbs with a word-final -i.

Results. The correct identification rate for plain consonants was 89.8%, and for palatalized consonants 65.7%. While a noticeable decrease could be noted for the palatalized group, the identification rate was still significantly above chance; Hypothesis 1 was thus confirmed.

Figure 1 shows the listeners’ perceptual sensitivity, known as d' (d' prime), to each POA. The d' value obtained for post-alveolar segments is significantly lower than the others, in support of Hypothesis 2.

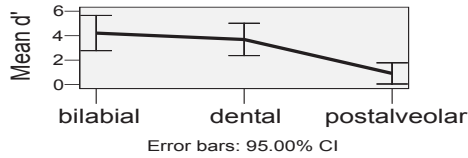


Figure 1. Perceptual sensitivity (d') to palatalization for each POA.

Experiment 2

In Experiment 1, palatalization was the only cue to the morphological status (sg./pl.) of the targets. Given that normally there is rich agreement in Romanian, the question arises whether the presence of additional morphological information makes listeners rely less on palatalization. Experiment 2 investigated the perceptibility of palatalization in the presence of other cues.

Hypothesis 3. In the presence of other morphological cues, subjects will pay less attention to palatalization (as compared to Experiment 1).

Hypothesis 4. Even in this case, POA effects are expected.

144 targets were selected from the three POAs previously tested. They were inserted in carrier sentences containing only one other cue to their morphological status (singular or plural). Each sentence was in one of two conditions: the matched context, in which the target word and the cue to its status were consistent (e.g. *un lup* 'one wolf'), and the mismatched context, in which the target word and the cue were conflicting (e.g. **doi lup* 'two wolf'). The task consisted of a forced choice between "acceptable" and "not acceptable". There were 20 subjects for this experiment.

Results. Figure 2 shows the perceptual sensitivity to palatalization for Experiment 1 as compared to Experiment 2. A tendency for perception to decrease in the presence of another morphological cue can be noticed, as predicted by Hypothesis 3.

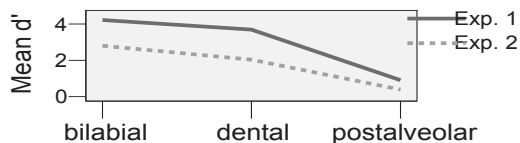


Figure 2. A comparison between the two experiments (d').

As for POA effects, decreased sensitivity was found once more with post-alveolars. Hypothesis 4 was confirmed by a one-way analysis of vari-

ance revealing that the d' value for post-alveolars was significantly lower than for the other two places ($F(2,57) = 18.95, p < .001$).

Conclusion

Native speakers of Romanian were able to discriminate between plain and palatalized consonants, but a decrease in perceptibility was found in the presence of another morphological cue, as well as depending on the primary POA of the palatalized consonant. The ability of these segments to contrast meaning is compatible with the assumption that palatalization corresponds to an underlying /i/. As for the perceptual differences noted for the three places of articulation, recent work explains phenomena such as the one under discussion by allowing more freedom to the surface phonemic representation, instead of positing many different rules to account for phonetic variation (Ladd 2006). This view is in line with modern findings emphasizing the quantitative nature of phonetic manifestations.

Notes

- 1 To my knowledge, no acoustic/articulatory study has established if these structures are palatalized consonants (with both a primary and a secondary place of articulation) or consonant-glide sequences. The term 'palatalization' was chosen because it has been more recurrent with respect to this topic in recent years.
- 2 Closer examination reveals the existence of monomorphemic words exhibiting the same pattern and, with few exceptions, a general lack of word-final C-unstressed [i] sequences in the language. It may be the case then that palatalized consonants are also phonologically predictable in word-final position.
- 3 Steriade (1984) shows that masculine/neuter nouns end in an underlying theme vowel /u/, and the 1st person singular affix for the present indicative of verbs (in some conjugations) is /u/ as well, even though these vowels rarely surface due to a rule of high vowel desyllabification.

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