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LOANWORD ADAPTATION IN KAZAKH: OBSTRUENT VOICING ALTERNATIONS

The investigation of loanword phonology has been immensely fruitful. Generally, research on loanword phonology has focused on the interaction of borrowing and lending phonologies, the interaction of phonetic and phonological representations, and the influence of extra-grammatical factors, like orthography and sociocultural prestige, in patterns of loanword adaptation. In addition, evidence from loans has clarified the analysis of the native phonology. This second, more narrow focus is the goal of this paper. We investigate patterns of obstruent voicing in loans to further understand the phonology of Kazakh. Non-coronal obstruents in Kazakh alternate for voicing at morpheme boundaries. Considering only the native and nativized lexica of the language, an analysis of either intervocalic voicing or syllable-final devoicing would seem most plausible. Each rule is able to account for all the data presented below. However, evidence from relatively recent loans supports the need for both rules, an analysis that would otherwise be strongly dispreferred by traditional notions of economy.

Keywords: phonology, Kazakh, Russian, loanword adaptation, voicing alternations.

Introduction

The investigation of loanword phonology has been immensely fruitful. Generally, research on loanword phonology has focused on the interaction of borrowing and lending phonologies, the interaction of phonetic and phonological representations, and the influence of extra-grammatical factors, like orthography and

sociocultural prestige in patterns of loanword adaptation [1] In addition, evidence from loans has clarified the analysis of the native phonology. This second, more narrow focus is the goal of this paper. We investigate patterns of obstruent voicing in loans to further understand the phonology of Kazakh, demonstrating that evidence from loans provides significant insight into the native phonological system.

This paper is organized as follows: we briefly describe word-final devoicing in Russian and then outline the basic patterns of obstruent voicing in Kazakh. We then present the key loanword adaptation data and discuss the implications of these data, both for Kazakh and for phonology more generally.

Materials and Methods

Since Kazakh orthography provides a reasonable approximation of phonological structure, we culled orthographic forms from online corpora and then confirmed the actual phonological structure with two types of data. First, we collected additional data by means of traditional elicitation with native speakers, transcribed using careful listening. The first author was the primary consultant and the second author the primary transcriber. In addition, we also analyzed audio data from [2] to verify native speaker intuitions, inspecting for glottal pulses and voice bars in relevant words.

Obstruent voicing in Russian

One of the most well-described phenomena in the phonology of Russian is word-final devoicing [3;4;5]. The voiced obstruents /b d g v z ʒ/ occur freely in non-final positions, as evident in the genitive singular forms in (1). However, when in word-final position, the voiced obstruents surface as voiceless, seen in the nominative singular forms in (1).

Table 1 – Word-final devoicing[1]

	Final C[1]	GEN.SG	NOM.SG	Gloss
a.	/p/	grip-ʁ	grip	‘flu’
b.	/b/	grib-a	grip	‘mushroom’
c.	/t/	kʁt-a	kot	‘cat’
d.	/d/	kod-ʁ	kot	‘code’
e.	/k/	pʁrok-a	pʁrok	‘threshold’
f.	/g/	pʁrog-a	pʁrok	‘vice’

[1] Throughout the paper we use the following abbreviations: (C = consonant, D = voiced obstruent, N = sonorant consonant, T = voiceless obstruent, V = vowel, # = word boundary). In addition, all glosses follow Leipzig glossing conventions.

In short, obstruents, both voiced and voiceless, occur with relative freedom in Russian. However, obstruent voicing is restricted word-finally, with voiced obstruent neutralized to their voiceless counterparts in this environment. Our focus in this paper is the adaptation of Russian loans by Kazakh speakers. Our brief description in this section, in tandem with the description of obstruent voicing patterns in Kazakh outlined in the following section lays the foundation for our description and analytical sketch of loanword adaptation in Kazakh.

Obstruent voicing in Kazakh

The Kazakh consonant inventory consists of seven stops /p b t d k g q/ and five fricatives /s z ʃ ʒ ʁ/ [6;7;8]. Word-initially, voicing is contrastive; both voiced and voiceless obstruents at each place of articulation may occur (2). Note that the voiceless uvular stop /q/ is paired with the voiced uvular fricative /ʁ/ in Kazakh due to the absence of the voiced uvular stop /ɢ/ in the language's consonant inventory.

Table 2

	C	Word	Gloss		C	Word	Gloss
a.	/p/	pıl	'elephant'	g.	/ʃ/	ʃal	'elderly man'
b.	/b/	bıl	'know'	h.	/ʒ/	ʒal	'mane'
c.	/t/	tæn	'body'	i.	/k/	kʏl	'ashes'
d.	/d/	dæn	'grain'	j.	/g/	gʏl	'flower'
e.	/s/	sat	'sell'	k.	/q/	qalam	'pen'
f.	/z/	zat	'thing'	l.	/ʁ/	ʁalam	'world'

Voicing contrasts are also evident intervocalically within roots. The pairs in (3) further demonstrate the voicing contrast for obstruents.

Table 3

	C	Word	Gloss		C	Word	Gloss
a.	/p/	sapa	'quality'	g.	/ʃ/	qʃa	'fork'
b.	/b/	saba	'a type of container'	h.	/ʒ/	qʒar	'appearance'
c.	/t/	ata	'grandfather'	i.	/k/	ʃeke	'temple'
d.	/d/	ada	'lacking'	j.	/g/	ʃege	'nail'
e.	/s/	masa	'mosquito'	k.	/q/	baqa	'frog'
f.	/z/	maza	'peace'	l.	/ʁ/	baʁa	'price'

Voiced and voiceless obstruents may also occur in consonant clusters within roots. Obstruents regularly occur as the second member of such clusters, typically preceded by sonorants, as in (4).

Table 4 – Obstruent voicing in C2 of root-internal consonant clusters

	C	Word	Gloss		C	Word	Gloss
a.	/p/	ʒalpɯ	'general'	g.	/ʃ/	qarʃɯʁa	'hawk'
b.	/b/	ʒalbɯz	'mint'	h.	/ʒ/	qarʒɯ	'finance'
c.	/t/	orta	'middle'	i.	/k/	erke	'pampered'
d.	/d/	orda	'horde'	j.	/g/	mergen	'shot'
e.	/s/	qarsɯ	'opposite'	k.	/q/	tarqɯl	'loud noise'
f.	/z/	arzan	'cheap'	l.	/ʁ/	taʁkɯl	'speckled'

However, obstruents may also occur as the first consonant in a root-internal cluster. In these cases, the voiced stops /b d g/ and /ʁ/ are rare, perhaps exceptional would be a better characterization. As evidence of that fact, we were unable to find a good example of /d/ in this position in (5). The word in (5d) <медбике> 'nurse' is a compound, from Russian <медсестра>, meaning literally 'medical sister.'

Several things are worth noting from the examples in (5). First, both consonants in the medial cluster agree in voicing. This is distinct from the data in (4), where voicing was not conditioned by the preceding sonorant consonant. Second, in almost all cases (cf. 5b), the second consonant of the cluster is a stop.

Table 5 – Obstruent voicing in C1 of root-internal consonant clusters

	C	Word	Gloss		C	Word	Gloss
a.	/p/	apta	'week'	g.	/ʃ/	qʊʃtar	'interested'
b.	/b/	abzal	'noble'	h.	/ʒ/	ʊʒdan	'conscience'
c.	/t/	ketpen	'hoe'	i.	/k/	bøkpen	'a traditional millet dish'
d.	/d/	medbike	'nurse'	j.	/g/	baqtaq	'trout'
e.	/s/	keste	'timetable'	k.	/q/	tarqɯl	'loud noise'
f.	/z/	ʒezde	'brother-in-law'	l.	/ʁ/	baʁdar	'direction'

Thus, obstruent voicing is contrastive in word-initial contexts (2), in root-internal intervocalic contexts (3), and in root-internal consonant clusters, both as onsets (4) and as codas (5), though the voiced stops /b d g/ and /ʁ/ are exceedingly rare as C1 of a consonant cluster.

While voicing is contrastive in the positions outlined above, obstruent voicing is restricted in root-final position. Voicing of non-coronal obstruents is neutralized in root-final positions; obstruents typically surface as voiced in onsets, but as voiceless syllable-finally and word-finally (6a-c). Specifically, morpheme-final non-coronal obstruents tend to surface as voiced [b g ʁ] in onsets, but as voiceless [p k q] in codas. Alongside this class of alternating segments exists a second class of non-alternating obstruents, whose voicing is consistent across syllable positions (6d-h). These non-alternating coronal obstruents, [t s z ʃ ʒ], may occur in onsets, in word-medial codas, and word-finally.

Table 6 – Kazakh voicing restrictions

	C	NOM (word-final)	ACC (coda)	POSS.3 (onset)	Gloss
a.	[p~b]	køp	køp-tɪ	køb-ɪ	'much'
b.	[k~g]	køk	køk-tɪ	køg-ɪ	'blue'
c.	[q~ʁ]	oq	oq-tɯ	o-ʁ-ɯ	'arrow'
d.	/t/	øt	øt-tɪ	øt-ɪ	'gall bladder'
e.	/s/	tøs	tøs-tɪ	tøs-ɪ	'chest'
f.	/z/	øz	øz-dɪ	øz-ɪ	'self'
g.	/ʃ/	øʃ	øʃ-tɪ	øʃ-ɪ	'malice'
h.	/ʒ/	tæʒ	tæʒ-dɪ	tæʒ-ɪ	'crown'

This restriction on obstruent voicing results in the alternations in (6). However, a different, phonotactic restriction on voicing is also present in the language. Kazakh restricts the type of consonants that may co-occur at the end of a root or word. At the end of roots only sonorant-voiceless obstruent clusters are possible. When the final obstruent in such words is /t/ (7a), no voicing alternations occur by syllabic position, as expected. When the final obstruent is from one of the alternating (non-coronal) pairs, we see a behavior distinct from the voicing alternations noted above. In these cases, root-final obstruents do not undergo voicing alternations at all (7b,c). For instance, the final uvular stop in /dɑŋq/ (7c) is voiceless regardless of its syllabification; in onset position and in coda position it is always [q] and never [ʁ].

Table 7 – Obstruent voicing after a sonorant consonant

	C	NOM	ACC	POSS.3	Gloss
a.	/t/	ʃart	ʃart-tɯ	ʃart-ɯ	'stipulation'
b.	/k/	reŋk	reŋk-tɪ	reŋk-ɪ	'color'
c.	/q/	dɑŋq	dɑŋq-tɯ	dɑŋq-ɯ	'glory'

Analytically, we are at present unable to assign underlying forms to alternating obstruents. We cannot discern whether the occurrence of voiced obstruents in root-

final position before vowels, e.g., [køb-ɪ], is due to a rule of intervocalic voicing, or alternatively, if the occurrence of voiceless obstruents in coda position at the end of roots, e.g., [køp] and [køp-tɪ], is the outcome of a rule of coda devoicing. These rule can be formulated as in (8).

(8)

Voicing rule: [-sonorant, -coronal] → [+voice] / V ___]Morpheme V

Devoicing rule: [-sonorant, -coronal] → [-voice] / ___]Morpheme {C, #}

Either rule is capable of describing all the data above. We might be inclined to prefer the intervocalic voicing rule since the phonotactic ban on root-final voiced obstruents after sonorant consonants, e.g., [dɑŋq]~[dɑŋq-ɯ] but not [dɑŋq]~*[dɑŋʁ-ɯ] strongly suggests the markedness of voiced obstruents. Further, this asymmetry accords with the almost universal markedness of voiced obstruents cross-linguistically. When obstruent voicing is neutralized, it is typically neutralized to the voiceless member of the pair. Moreover, the presence of voiced obstruents typically entails the presence of voiceless obstruents in a language, but no such Greenbergian implication is possible in the opposite direction. In sum, the analysis of Kazakh obstruents is to some degree indeterminate at present because of the particular restrictions of the language. The native lexicon does not provide unequivocal cases of underlying voiced and voiceless obstruents in root-final position. In this regard, Russian loans are useful, since Russian voicing is contrastive in root-final position, if not in word-final position, a fact that allows us to further probe the phonological grammar of Kazakh.

Before discussing the behavior of Russian loans, we must first briefly describe voicing alternations at the root-suffix boundary in Kazakh. In general, the sonorancy of the rightmost (onset) member of a medial consonant cluster depends on the sonorancy of the leftmost member of the cluster in Kazakh [9;10]. The language requires a sonority drop from C1 to C2, triggering alternations among suffix-initial consonants. In obstruent clusters, if C1 is voiced, so is C2; and conversely, if C1 is voiceless, so is C2. These alternations are observable in (9), where root-final voiced obstruents (9a,b) require suffix-initial consonants that are also voiced. In contrast, root-final voiceless obstruents in (9c-e) dictate that the immediately following obstruents must be voiceless.

Table 9 – Suffix alternations in Kazakh

	C	ACC	PL	Gloss
a.	/z/	saz-dɯ	saz-dar	'melody'
b.	/ʒ/	baʒ-dɯ	baʒ-dar	'duty'
c.	/s/	tas-tɯ	tas-tar	'stone'
d.	/ʃ/	ʃaʃ-tɯ	ʃaʃ-tar	'hair'
e.	/t/	at-tɯ	at-tar	'horse'

Given these data, we can now investigate the behavior of Russian loans. In particular, we are interested in how root-final voiced and voiceless obstruents surface when borrowed by Kazakh speakers. Moreover, we are interested in what sorts of suffix-initial consonants may follow them.

Obstruent voicing in (Russian) loans

We now turn to the focus of our paper – the adaptation of Russian loans and the behavior of root-final obstruents. As a brief aside, the reader will note that some of the words listed below are not actually native Russian words. In our experience, Russian is typically the medium throughout which new words are borrowed into Kazakh. Of course, older loans from Arabic and Persian don't follow this trend, but in the last 150 years, Russian language and culture have exerted significant influence on Kazakh speakers and their language.

Any suffixes attached to Russian loans that end with the voiceless obstruents /p t k f s ʃ/ will surface as voiceless, agreeing in voicing with the root-final obstruent (10). In the possessive forms in (10), /p k/ undergo voicing before the vowel-initial possessive suffix. In this regard, most Russian root-final voiceless obstruents behave exactly like the Kazakh obstruents observed above; in coda positions, they surface as voiceless while surfacing as voiced intervocalically.

Table 10 – Suffixation of VT-final loan words

	C	NOM	PL	POSS.3	Gloss
a.	/p/	izɐtop	izɐtop-tɑr	izɐtob-ɯ	‘isotope’
b.	/t/	bɐnkɐmat	bɐnkɐmat-tɑr	bɐnkɐmat-ɯ	‘ATM’
c.	/k/	pʲiknʲik	pʲiknʲik-ter	pʲignʲig-ɪ	‘picnic’
d.	/f/	ʃkaf	ʃkaf-tɑr	ʃkaf-ɯ	‘dresser’
e.	/s/	prɐtsʲes	prɐtsʲes-ter	prɐtsʲes-ɪ	‘process’
f.	/ʃ/	gɐloʃ	gɐloʃ-tɑr	gɐloʃ-ɯ	‘galosh’

The exception to this generalization is /f/, which does not undergo voicing intervocalically. Analytically, this fact prompts a revision to the intervocalic voicing rule proposed in (8). The target of this rule, given the non-alternation of /f/, must further specify that the target is [-continuant], as in (11).

Table 11 – Revised voicing rule

[-sonorant, -coronal, -continuant] → [+voice] / V ___]Morpheme V

Despite the general adequacy of this rule, there is some evidence that /f/ may optionally alternate for voicing in this position, though [f] appears far more frequently than [v]. We infer from this a potential change-in-progress, though which the revised voicing rule in (11) is becoming more general, like our initial voicing rule in (8).

We can compare the alternation of underlyingly voiceless obstruents in (10) with the pattern observed for underlyingly voiced obstruents in (12). Root-final voiced stops surface as voiceless in (12) when they are coda position, either word-finally or preceding a suffix-initial consonant. In other words, even though these voiced obstruents are no longer word-final they undergo devoicing. While Kazakh orthography preserves the underlying voicing of the loan, during production, these obstruents are produced without vocal fold vibration. We confirmed this by examining a range of tokens from the Kazakh Speech Corpus [2]. In addition to undergoing devoicing in root-final position, these devoiced stops trigger voiceless allomorphs of consonant-initial Kazakh suffixes. The behavior of the fricatives in (12d-f) is most instructive. The voiced labBeforeiodental fricative /v/ is devoiced root-finally and triggers voiceless allomorphs of consonant-initial suffixes (12d). Given the devoicing of other voiced obstruents, one might expect /z ʒ/ to both

undergo devoicing and trigger voiceless suffix allomorphs. However, these two obstruents are not devoiced, and as a result, trigger voiced obstruent allomorphs of immediately following suffixes (12e,f).

Table 12 – Suffixation of VD-final loan words

	C	NOM	PL	POSS.3	Gloss
a.	/b/	mʲikrop	mʲikrop-tar	mʲikrob-ɯ	'microbe'
b.	/d/	kot	kot-tar	kod-ɯ	'code'
c.	/g/	kɐtɐlok	kɐtɐlok-tar	kɐtɐlog-ɯ	'catalogue'
d.	/v/	ɐkʲtʲif	ɐkʲtʲif-ter	ɐkʲtʲiv-ɪ	'active'
e.	/z/	ɐnalʲiz	ɐnalʲiz-der	ɐnalʲiz-ɪ	'analysis'
f.	/ʒ/	arbʲitra-ʒ	arbʲitraʒ-dar	arbʲitraʒ-ɯ	'arbitrage'

The surface voicing of /z ʒ/ entails that we cannot adopt Russian surface forms as underlying forms here. These sibilants, which are devoiced to [s ʃ] in Russian, behave as voiced in Kazakh (12e,f), triggering voiced allomorphs of the plural suffix. As such, these data preclude any analysis that treats Russian SRs as equivalent to Kazakh URs for loans. Under such an account devoiced [s ʃ] would be predicted to behave like underlying /s ʃ/, triggering voiceless allomorphs of the plural suffix above. If we entertain the possibility of treating Russian URs as the underlying forms in these words, we must, based on the data above, also accept the necessity of a rule of syllable-final devoicing, for both underlyingly voiced and voiceless obstruents are neutralized to voiceless in syllable-final positions in (10) and (12).

This conclusion is further supported by loans with root-final sonorant-obstruent clusters. In native Kazakh words, root-final obstruents do not undergo voicing before vowel-initial suffixs (e.g., [dɑŋq-ɯ] 'glory-poss.3'). In (13a-f), the same pattern is observed with final voiceless stops from Russian; there are no voicing alternations in these obstruents, whether in onset or coda position. However, Russian loans with a final sonorant-voiced obstruent cluster show voicing before the possessive suffix, with devoicing in nominative singular and plural forms (13g-j).

Table 13 – Suffixation of NC-final loan words

	C	NOM	PL	POSS.3	Gloss
a.	/p/	ʃtamp	ʃtamp-tɑr	ʃtamp-ɯ	‘stamp’
b.	/t/	devʲiant	devʲiant-tɑr	devʲiant-ɯ	‘deviant’
c.	/k/	bank	bank-ter	bank-ɪ	‘bank’
d.	/f/	morf	morf-tɑr	morf-ɯ	‘morph’
e.	/s/	bɐlans	bɐlans-tɑr	bɐlans-ɯ	‘balance’
f.	/ʃ/	farʃ	farʃ-tɑr	farʃ-ɯ	‘ground beef’
g.	/b/	serp	serp-ter	serb-ɪ	‘Serb’
h.	/d/	lɐmbart	lɐmbart-tɑr	lɐmbard-ɯ	‘pawn shop’
i.	/g/	xoldink	xoldink-ter	xolding-ɯ	‘holding’
j.	/v/	rezerf	rezerf-ter	rezerv-ɪ	‘reserve’

This pattern derives from the interaction of both Russian and Kazakh phonologies. In most respects, loans conform to the phonology of Russian. They preserve their lexical stress, they allow consonants and consonant clusters that are otherwise illicit in Kazakh. Despite this tendency to subvert the borrowing phonology in favor of the lending language phonology, Kazakh phonology constrains the occurrence and alternation of voiced obstruents root-finally in these loans. Whenever a voiced obstruent would be banned in word-final or root-final coda position, it is devoiced. Yet, whenever a voiced obstruent would be allowed word-finally or in a root-final coda, i.e., /z ʒ/, it is preserved.

Results and discussion

One significant claim in the literature on loanword adaptation is that borrowing languages are often highly sensitive to surface forms in the lending language [11]. In the present case, there is some very clear evidence that Kazakh speakers are borrowing a derived, surface structure from Russian and not simply an underlying form, namely stress placement and vowel reduction. Stress placement in Russian is not generally predictable, and Russian loans in Kazakh preserve their lexical stress. The most obvious manifestation of stress retention is vowel reduction. Stress placement in Russian conditions vowel reduction. We transcribe reduced vowels as [ɐ] throughout, see e.g., (1).

However, as noted above, Russian word-final devoicing is not transmitted to these loan words. While Russian bans all voiced obstruents in prosodic word-final position, Kazakh allows the voiced sibilants [z ʒ] in that position. From this fact we can infer that obstruent voicing in these loans is not entirely predicted by the surface structure of Russian. This therefore suggests that Kazakh speakers are not simply accessing the surface forms of Russian loans. This dependence on both underlying and surface information is consistent with a large body of research on loanword adaptation [12;1]. It is possible that Kazakh speakers are directly accessing Russian underlying forms since most Kazakh speakers are also fluent speakers of Russian [13]. Alternatively, Kazakh speakers may simply be accessing Russian orthographic forms, through which more abstract information is mediated [14;15].

Given that we need to assume information beyond Russian SRs for these loans, and given that, whether URs are mediated by orthography or not, we know voiced obstruents may occur in root-final position of Russian words, we are now able to address with more certainty how to account for voicing alternations in Kazakh. Given the data from the native stratum of the lexicon, we cannot judge whether a voicing or devoicing analysis is superior and thus cannot determine which rule best describes the data. However, with the introduction of loan words, specifically loan words that have underlying voiced obstruents occurring root-finally, we can proceed with greater clarity.

Table 1 briefly summarized our findings. In both the native and borrowed lexica, voiceless obstruents may occur in root-final position after a sonorant consonant. However, in the borrowed lexicon, voiced obstruents may occur in this context as long as a vowel immediately follows. In contrast, voiced obstruents do not occur in this context in the native phonology. Given that voiceless obstruents don't surface in words comparable to [dɑŋq-ɯ] we infer a morpheme structure constraint banning voiced obstruents in this position. Borrowed words are not subject to this constraint. When we consider root-final obstruents that are immediately preceded by a vowel, Russian loans generally follow the pattern found in the native lexicon. The only difference, not shown in Table 1, is the fact that /f/ does not undergo voicing in root-final intervocalic contexts.

Table 14 – The distribution of root-final voiced and voiceless obstruents

		Native lexical items		Loans	
		Voiced obstruents /b d g ʁ/	Voiceless obstruents /p t k q/	Voiced obstruents /b d g v/	Voiceless obstruents /p t k f/
N__]$_{Rt}$	__V		✓ [dɑŋqɯ]	✔ [serbɪ]	✓ [ʃtampɯ]
	__{C, #}		✔ [dɑŋq] [dɑŋqtɯ]		✓ [izʁtop] [mʲikrop] [serp]
V__]$_{Rt}$	__V	✓ [købɪ]		✓ [mʲikrobɯ] [izʁtobɯ]	
	__{C, #}		✓ [køp] [køptɪ]		✔ [ʃtamp] [ʃtamptɑr]

Since underlyingly voiceless loans surface as voiced intervocalically, as shown in Table 1, we see the absolute necessity of the revised voicing rule in (11). This accounts for the behavior of alternating Kazakh roots, e.g., [køp]~[køb-ɪ], as well as alternating loans, [izʁtop]~[izʁtob-ɯ]. However, this voicing rule does not successfully account for the fact that underlyingly voiced obstruents in loans like / serb/ surface as voiceless in coda positions, [serp] and [serp-ter], again, as seen in Table 1. To account for these facts, the devoicing rule posited in (8) is necessary.

In other words, a rule of coda devoicing as well as a rule of intervocalic voicing are necessary to account for the full range of data discussed herein. While typical considerations of economy would lead us to prefer the adoption of one of the two rules proposed in (8) but not both, considering the behavior of Russian loans renders each one-rule analysis inferior to the analysis built on both rules.

Conclusion

Assuming that loaned vocabulary is subject to the same rules (or alternatively, constraints) as the native vocabulary [16], loanword data provides the same sort of insight into the grammar demonstrated in Hout [17]. Stated simply, exceptional forms – in this case, exceptional inputs – are not extra-grammatical, but are constrained by the same forces that shape the native phonology.

Additionally, the loanword data demonstrates that /f/ is immune to intervocalic voicing, a fact that would never become apparent within the native lexicon since /f/ is not part of the native inventory. In this manner, the fact the natural class undergoing intervocalic voicing at root-suffix boundaries includes the featural specification [-continuant], a specification that we would not have posited otherwise. Without the loanword data, we would be strongly predisposed to defining this natural class as [-sonorant, -coronal], again due to principles of

economy. However, as with our two-rule analysis, loanword data informs and supports the superiority of what would otherwise seem an inescapably inferior formal description. As such, these forms provide key information for the description of Kazakh voicing, information that would otherwise be unavailable to the analyst.

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ҚАЗАҚ ТІЛІНДЕГІ КІРМЕ СӨЗДЕРДІҢ БЕЙІМДЕЛУІ: ҚАТАҢ МЕН ҰЯҢ ДАУЫССЫЗДАРДЫҢ АЛМАСУЛАРЫ

Кірме сөздердің фонологиясын зерттеу өте жемісті нәтижелер берді. Жалпы алғанда, кірме сөздердің фонологиясы бойынша жүргізілген зерттеулер тілдер арасындағы фонологиялық жүйелердің өзара байланысына, фонетикалық және фонологиялық көріністердің ықпалдасуына, сондай-ақ орфография мен әлеуметтік-мәдени бедел сияқты тілдік емес факторлардың кірме сөздердің бейімделу үлгілеріне

тигізетін әсеріне бағытталған. Сонымен қатар, кірме сөздер арқылы ана тіліміздің фонологиялық жүйесін талдау нақтылана түсті. Осы екінші, тар шеңберлі бағыт – осы мақаланың негізгі мақсаты. Біз кірме сөздердегі қатаң мен ұяң дауыссыздардың үлгілерін зерттеу арқылы қазақ тілінің фонологиялық жүйесін тереңірек түсінуді көздейміз. Қазақ тілінде тіл ұшы емес үнсіз дауыссыздар морфема шекарасында дауысталу немесе дауыссыздану арқылы алмасады. Тек қазақ тілінің төл және бейімделген лексикасына сүйенсек, не дауысты дыбыстар арасында дауысталу, не буын соңында дауыссыздану ережесі ең ықтимал көрінеді. Келтірілген әрбір ереже деректерді түсіндіре алады. Алайда салыстырмалы түрде жаңадан енген кірме сөздерге сүйенсек, бұл ережелердің екеуін де қатар қолдану қажеттігі туындайды. Мұндай жағдай дәстүрлі тілдік үнем қағидасына қайшы келеді.

Кілтті сөздер: фонология, қазақ тілі, орыс тілі, кірме сөздерді бейімдеу, дыбыстық алмасулар.

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АДАПТАЦИЯ ЗАИМСТВОВАННЫХ СЛОВ В КАЗАХСКОМ ЯЗЫКЕ: ЧЕРЕДОВАНИЕ ЗВОНКИХ И ГЛУХИХ ШУМНЫХ СОГЛАСНЫХ

Исследование фонологии заимствованных слов оказалось чрезвычайно плодотворным. В целом исследования в области фонологии заимствований были сосредоточены на взаимодействии фонологических систем языка-донора и языка-реципиента, взаимодействии фонетических и фонологических представлений, а также на влиянии внеязыковых факторов, таких как орфография и социокультурный престиж, на процессы адаптации заимствованных слов. Кроме того, данные о заимствованиях помогли уточнить анализ родной фонологии. Именно этой второй, более узкой цели

посвящена данная работа. Мы исследуем особенности чередования звонких и глухих шумных согласных в заимствованных словах с целью более глубокого понимания фонологии казахского языка. В казахском языке шумные некорональные согласные чередуются по признаку звонкости на морфемных границах. Если рассматривать только родную и натурализованную лексику, наиболее правдоподобными представляются две альтернативные гипотезы: озвончение в интервокальной позиции или оглушение в конце слога. Каждое из этих правил способно объяснить все приведённые данные. Однако свидетельства, полученные из относительно недавних заимствований, указывают на необходимость признания действия обоих правил одновременно – анализа, который с точки зрения традиционных представлений об экономии языковых средств выглядел бы крайне нежелательным.

Ключевые слова: фонология, казахский язык, русский язык, адаптация заимствованных слов, чередование озвученности.

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