

The indexed faithfulness approach cannot capture the phonological differences between native words and loanwords in Modern Uyghur

This paper shows that the indexed faithfulness approach (IFA) cannot capture the phonological differences between native words and loanwords in Modern Uyghur.

IFA was proposed by Fukazawa (1998) and developed by Itô and Mester (1999) to capture the phonological differences among lexical strata (e.g., native words and loanwords). It assumes that there is a single fixed constraint ranking for the entire language, and only faithfulness constraints can be indexed to lexical strata (e.g., $\text{FAITH}_{L(=\text{LOANWORDS})}$) but other constraints (markedness and/or alignment constraints) cannot be indexed to them.

This approach is to be regarded as defective if there is a phonological difference among lexical strata that cannot be resolved by indexed faithfulness constraints but can be resolved by indexed non-faithfulness constraints. Such a case is found in Modern Uyghur. Modern Uyghur has vowel-initial possessive suffixes (e.g., */-im/* “my”) and one consonant-initial possessive suffix (e.g., */-si/* “his/her”). When affixed to a native word ending with a consonant, vowel-initial suffixes are affixed directly; conversely, the */s/* in */-si/* must be deleted (see (1a)). However, when affixed to a loanword ending with a consonant, */r/* is inserted between the loanword and vowel-initial suffix, and */s/* in */-si/* does not have to be deleted (see (1b)).

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| (1) | a. | <i>yiriŋ</i> “pus”
my ^{ok} <i>yiriŋ-im</i> * <i>yiriŋ-rim</i>
his/her ^{ok} <i>yiriŋ-i</i> * <i>yiriŋ-si</i> | b. | <i>xasiŋ</i> “peanut” (derived from Chinese)
^{ok} <i>xasiŋ-rim</i> ^{ok} ~? <i>xasiŋ-im</i>
^{ok} <i>xasiŋ-si</i> ^{ok} ~? <i>xasiŋ-i</i> |
|-----|----|---|----|--|

Note: Grammaticality of suffixed forms of loanwords without *r* or *s* varies among speakers.

In (1b), it is likely that */r/* and */s/* function to create a salient morpheme boundary by separating the final consonant of stems and the vowel of suffixes into different syllables. To describe (1b), we need to assume the alignment constraint “ALIGN(Stem, R, σ , R)” proposed by McCarthy and Prince (1993) requiring the right edge of a stem to correspond to the right edge of a syllable outranks *CODA (which prohibits codas). However, since this ranking predicts that native words like *yiriŋ-im* and *yiriŋ-i* are not optimal candidates, this paper assumes that ALIGN(Stem, R, σ , R) is indexed to loanwords, as shown in (i) below.

Thus, we need an indexed alignment constraint to capture the difference between native words and loanwords in Modern Uyghur, and IFA cannot capture this difference since it does not assume indexed alignment constraints. Actually, this indexed alignment constraint is necessary as far as we consider the idea that there is a single fixed constraint ranking for the entire language. If we assume that there are different constraint rankings for different lexical strata, as in the co-phonology approach (Anttila 2000 etc.), this constraint is not always necessary. Assuming multiple different constraint rankings still indicates the defect of IFA because IFA assumes a single fixed constraint ranking. Some may argue that it is possible to capture this difference with the indexed faithfulness constraint “FAITH- σ_L ” requiring the syllable structure of the output of loanwords to be identical to that of the input. However, if this is to be adopted, we must assume that the syllable structures of loanwords are memorized in inputs, although they are predictable from syllable structure constraints. Furthermore, even if we assume this, FAITH- σ need not be indexed to loanwords, because according to this assumption, the differences between native words and loanwords are reduced to differences between being memorized with syllable structure or not (see (ii) below). This means that indexed faithfulness constraints play little or no role to capture the differences between native words and loanwords.

Tables ([] represents syllable boundary)

(i)

Input	Candidates	ALIGN(Stem, R, σ , R) <u>L</u>	*CODA
/xasiŋ-im/ <u>L</u>	☞ [xa][siŋ]-[rim]		** (η , m)
	[xa][si][ŋ-im]	*! ([xa][si][<u>ŋ-im</u>])	* (m)
/xasiŋ-si/ <u>L</u>	☞ [xa][siŋ]-[si]		* (η)
	[xa][si][ŋ-i]	*!([xa][si][<u>ŋ-i</u>])	
/yiriŋ-im/	☞ [yi][ri][ŋ-im]		* (m)
	[yi][riŋ]-[rim]		**! (η , m)
/yiriŋ-si/	☞ [yi][ri][ŋ-i]		
	[yi][riŋ]-[si]		*! (η)

(ii)

Input	Candidates	FAITH- σ	*CODA
/[xa][siŋ]-im/	☞ [xa][siŋ]-[rim]		** (η , m)
	[xa][si][ŋ-im]	*!	* (m)
/[xa][siŋ]-si/	☞ [xa][siŋ]-[si]		* (η)
	[xa][si][ŋ-i]	*!	
/yiriŋ-im/	☞ [yi][ri][ŋ-im]		* (m)
	[yi][riŋ]-[rim]		**! (η , m)
/yiriŋ-si/	☞ [yi][ri][ŋ-i]		
	[yi][riŋ]-[si]		*! (η)

References

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