

Accent Strength in Lithuanian Prosody

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Introduction. In this work, I look at the distribution of surface accents in Lithuanian nominal paradigms. I claim that a viable analytical option for capturing the observed patterns is to introduce a system with gradient accent strength levels. While Blevins (1993) has a minimal analysis of the Basic Accentuation Principle (BAP) in Lithuanian (with the only accent type active in the grammar being a simple H-tone linked to a mora), her account of the De Saussurian accent shift does not correctly derive the data found in the modern language and needs to be revised. If one allows for underlying accents to be strong and weak (with this distinction obliterated on the surface), the BAP and the De Saussurian shift can both be captured in a rather straightforward manner using a series of well-established constraints.

Background. Lithuanian is a language with classic Indo-European accentuation properties (Ambrazas, 2006; Stang, 1966). It displays the well-known IE Basic Accentuation Principle, also found in various Slavic languages, Vedic Sanskrit and others (cf. Halle & Vergnaud 1987):

- (1) a. In a complex word (Stem+Affix) with one strong and one weak morpheme, the strong morpheme will always surface with the main word accent;
- b. Otherwise, the main accent will always be on the stem.

In addition to BAP, Lithuanian has De Saussure's Law (DS), which can be synchronically described as an accent moving to a short inflectional affix from a stem-final mora (in (2), strong morphemes are shown with an underlying accent, while weak morphemes are assumed to be accent-free, as in Blevins 1993):

- (2) a. UR *índ* + *áms* → SR *índams* [stem wins over affix (BAP)]
- b. UR *índ* + *aa* → SR *índaa* [single accent surfaces faithfully (BAP)]
- c. UR *vaik* + *áms* → SR *vaikáms* [single accent surfaces faithfully (BAP)]
- d. UR ***índ*** + ***é*** → SR ***indé*** [affix accent wins despite BAP]
- e. UR ***índ*** + ***u*** → SR ***indú*** [single accent moves to short affix]
- f. But: UR *índ* + *as* → SR *índas* [single accent does NOT move to short affix]

Blevins (1993) is the most recent analysis of Lithuanian accent which attempts to tackle the phenomenon in question. It does not distinguish between different accent levels and has all-or-nothing accent representations. The analysis must therefore rely on extraprosodicity, and also make additional stipulations regarding certain weak stems. Additionally, the analysis overgenerates instances of affixal stress because it fails to recognize that the affixes in the DS set can be both weak and strong in the modern language, just like any other morpheme. Thus, for Blevins, there is no difference between the affixes in (2-d) and (2-e) (both are accented in her analysis), which produces incorrect outputs, such as **kelmú* instead of *kélmu* when combined with the weak stem *kelm-*. The DS rule itself in the analysis is also too strong, because it will delete any accent before another accent located on the following mora, thus incorrectly generating affixal stress for the form in (2-a): **indáms*.

Proposal. I suggest that underlying accents may vary in strength in the lexicon (Gradient Symbolic Representations, cf. Goldrick & Smolensky 2016). Nominal roots are stored with underlying accents, with weak accents having the activity level 0.5 and strong ones being fully active at 1.0. Inflectional affixes can have the same activity levels as roots, with the only difference being that some of them are completely accent-free (such as *-as* in (2-f)): this

explains the non-application of the De Saussurian accent shift when these affixes are involved. I also claim that the feature that distinguishes De Saussurian affixes from other affixes in the system is that they are obligatorily short and have at least a weak underlying accent. With the above system of underlying representations, the principles in (1-a) and (1-b) are derived simply by postulating the following constraint ranking: DEP(H) » FAITHST(H) » FAITHAFF(H).

Since a weak accent only has the activity level of 0.5, a candidate realizing it on the surface will violate DEP(H). If there is a strong accent also present in the phonological word, it will be preferred. Otherwise, if both morphemes are equally strong/weak, the stem is always given precedence. Finally, if a completely accent-free ending is used, the only possible scenario is to retain the accent of the stem, weak or strong (cf. (2-f)). As far as the De Saussurian shift is concerned, the following observation emerges:

- (3) When any two underlying accents coincide at the right edge of a phonological word, the affixal accent surfaces, regardless of its strength.

The desired effect is achieved if the cumulative violation of the UR-oriented constraint *CLASH (penalizing adjacent accents in the underlying representation) and the surface-oriented constraint R (preferring the main accent to be right-aligned) overpower both DEP(H) and FAITHST(H):

- (4) *CLASH & R » DEP(H) » FAITHST(H)

Because of the nature of *CLASH, the asymmetric trade-off effect needed in a Harmonic Grammar (HG) based approach (Legendre et al., 1990; Pater 2009, 2016; Murphy, 2017) cannot be obtained. While the pure notion of Local Constraint Conjunction (Prince and Smolensky 2004) is not an inherent part of the HG machinery, there is independent evidence that a tool akin to local conjunction is needed to capture certain cumulative effects in HG (Müller 2017). I therefore propose that the two constraints in question can be made dependent on each other whereby, if they are simultaneously violated by a candidate, their violation multiplier is effectively doubled. This creates an effect almost as powerful as local conjunction in OT.

- (5) *The interaction of *CLASH & R:*

Inp:	$\text{in}_{(1.0)}\text{d}+\text{u}_{(0.5)}$	DEP	*CLASH	FAITHST	FAITHAFF	R	H
		6	5	3	2	0.5	
☞ a.	$\text{in}_{(1.0)}\text{d}+\text{u}_{(0.5+0.5)}$	-0.5	-1	-1			-11
b.	$\text{in}_{(1.0)}\text{d}+\text{u}_{(0.5)}$		-2		-1	-2	-13

Conclusions. Even though the distinction is not visible on the surface, there are reasons to believe that Lithuanian morphemes have two types of underlying accents. Strong accents are always given precedence, followed by morphological stems (cf. Revithiadou 1999). This derives the Basic Accentuation Principle. The accent shift from stem-final moras to accented short affixes can be derived as a cumulative effect where two lower-ranked principles ‘gang up’ on a higher-ranked one.

Selected References. Blevins, J. (1993): ‘A tonal analysis of Lithuanian nominal accent’, *Language* · Goldrick, M. and P. Smolensky (2016): ‘Gradient symbolic representations in grammar: The case of French liaison’, *Ms. Johns Hopkins University and Northwestern University* · Legendre, G., Y. Miyata and P. Smolensky (1990): *Harmonic grammar: A formal multilevel connectionist theory of linguistic well-formedness: Theoretical foundations*. Citeseer.