Overcoming contextual quantity-sensitivity in Kazym Khanty through constraint interaction

Introduction. Kazym Khanty (Ob-Ugric > Uralic) demonstrates peculiar contextual quantity-sensitivity. It may seem that there is a moraic trochee, in the sense of (Hayes 1995), in words with an odd number of syllables and a syllabic trochee (ibid.) in words with an even number of syllables.

This system can be problematic for Optimality Theory (OT, Prince & Smolensky 1993/2004), for this framework cannot count syllables and assign the quantity-(in)sensitive characteristic to the word stress according to their quantity. The aim of my talk is to show that this problem can be solved and partial quantity-sensitivity is the result of constraint interaction.

Data.[1] Stress never falls on the last syllable. In 2-syllable words, the first syllable is always stressed ('ła.raś 'box'; 'pă.san 'table'; 'χo.tɛm 'house.POSS.1SG').

In 3-syllable words with tense vowels and open syllables, the first syllable is stressed ('ła.ra.śa 'box.DAT'; 'χo.tɛ.ma 'house.DAT'; 'ke.wa.na 'bottle.DAT'). In words with syllabic structure CV.CV.CV(C) and a lax vowel[2] in the first syllable, stress shifts to the second syllable (pă.'sa.na 'table.DAT'; wʉ.'lɛ.ma 'deer.POSS.1SG.DAT').[3]

When a closed syllable occurs in a 3-syllable word, it gets stressed ('pirś.'ła.łn[4] 'old man.PL.POSS.3SG.LOC'; ła.'raś.ła 'box.POSS.3SG.DAT'; 'ńaw.'rɛm.łał 'child.PL.POSS.3SG'; 'kɵr.'tə.ta 'village.PL.DAT').

In 4-syllable words, stress always falls on the first and the third syllable, vowel or syllable quality notwithstanding ('pă.sa.'nɛ.ma 'table.POSS.1SG.LOC'; 'ju.rɛ.'mi.jəł 'forget.FREQ.NPST[3SG]'; 'sewr.sə.'łə.mṇ 'chop.PST.1DU'; 'pak.nəł.'sə.mṇ 'scare.PST.1DU').[5]

Analysis. Kazym Khanty allows for monosyllabic words consisting of a single closed syllable (*łońś* 'snow'; *χuł* 'fish'). Monosyllabic words with an open syllable, such as *ma* 'my', are clitics. According to McCarthy & Prince (1986), lexical words should correspond to prosodic words (which consist of at least one foot). This indicates the presence of quantity-sensitivity in the system and means that one closed syllable can comprise a well-formed trochaic foot. I assume that this foot is binary in its moraic structure.

I propose the following constraint ranking:

{Ft-bin, Trochee, NonFin} > ParseSyl > {WSP, ITL} > *StressLax > Leftmost

i. Ft-bin: feet must be binary at some level of analysis (μ, σ) (McCarthy & Prince 1986);

ii. Trochee = Align (Ft, L, Head(Ft), L); $\forall$ foot $\exists$ head of the foot such that the left edge of the foot and the left edge of the head of the foot coincide (cf. RhType=T in (Prince & Smolensky 1993));

iii. NonFin = NonFinality; final stressed syllables are banned (Prince & Smolensky 1993);

iv. ParseSyl: syllables must be parsed into feet (Prince & Smolensky 1993);

---

[1] The research is based on elicitation data collected during two field trips to Kazym (Khanty-Mansi Autonomous Okrug, Russia) in 2022/23.

[2] Lax vowels are /ă/, /ʉ/, /ɵ/ and they can only appear in the first syllable.

[3] I must note that some speakers prefer not to shift stress in words with /ʉ/ or /ɵ/. In my analysis I consider the most widespread case presented in this example.

[4] I will elaborate on the distribution of main and secondary stress in my talk.

[5] There are longer words but they appear quite rare and follow the described pattern.

v. WSP: Weight-to-Stress Principle; heavy syllables are prominent (Prince 1990);

vi. ITL = Iambic-Trochaic Law. The elements of a trochaic foot must be equal (while the elements of an iambic foot must contrast in quantity) (Alber 1997);

vii. *StressLax: stressed lax syllables are banned;

viii. Leftmost = Align (PrWd, L, Ft, L); $\forall$ prosodic word $\exists$ foot such that the left edge of the prosodic word and the left edge of the foot coincide (Prince & Smolensky 1993).

This configuration would allow only binary head-initial feet and ban final stressed syllables. It also has a requirement to stress heavy syllables and to avoid stressed lax vowels. If there are no heavy syllables or lax vowels, the stress should fall on the first syllable. If there is a 4-syllable word, it appears to be more important to parse all the syllables into binary head-initial feet than to satisfy other constraints.[6]

Conclusion. Partial quantity-sensitivity seems to be relevant not only for Kazym Khanty, but also for some other Uralic languages, e.g. Finnish and Estonian (Alber 1997). It is possible to analyze this phenomenon through the means of OT constraint interaction. Sometimes it is explained by the high ranking of Leftmost and the intermediate/lower position of the WSP (ibid.). The Kazym Khanty case appears to be interesting because its contextual quantity-sensitivity arises mostly due to the ban on unparsed syllables: if a word is long enough, most of its syllables should be parsed, ignoring other constraints, such as the WSP or *StressLax. My work has also provided another example which demonstrates that quantity-sensitivity should not be considered a binary parameter when describing the stress system of a language. This suggestion also supports the idea that there are no truly quantity-insensitive systems (Kager 1992).

Glosses

DAT — dative case; DU — dual; FREQ — frequentative; LOC — locative case; NPST — non-past tense; PL — plural; POSS — possessive; PST — past tense; SG — singular; 1, 3 — 1st, 3rd person.

References

Alber, B. (1997). Quantity sensitivity as the result of constraint interaction. *Phonology in progress: progress in phonology. The Hague: Holland Academic Graphics,* 1–45.

Hayes, B. (1995). Metrical stress theory: Principles and case studies. *University of Chicago Press.*

Kager, R. (1992). Are there any truly quantity-insensitive systems? *Annual Meeting of the Berkeley Linguistics Society*, 18(1), 123–132.

McCarthy, J. J. and Prince, A. (1986). Prosodic morphology. *Manuscript.*

Prince, A. (1990). Quantitative consequences of rhythmic organization. *CLS 26-II: Papers from the Parasession on the Syllable in Phonetics and Phonology. Chicago Linguistic Society, Chicago, 355–398.*

Prince, A. & Smolensky, P. (1993/2004). Optimality Theory: Constraint Interaction in Generative Grammar. *Malden & Oxford: Blackwell.*

---

[6] I will provide tableaux in my presentation.