

Feature-filling and underspecified vowels: an account of irregularities in Votic vowel harmony

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Votic, a Finno-Ugric language, has progressive vowel harmony of the feature BK as seen in [orgo-zɑ] ‘valley.INESS.’ / [izæ-zæ] ‘fathers.INESS.’ (Ariste, 1968). However, some suffixes do not alternate: [tø-ka] ‘work.COM.’ / [jal^hga:-ka] ‘foot.COM.’ Such behaviour shows that phonological patterns cannot be understood merely by looking at surface forms—It is sometimes necessary to posit more abstract underlying forms.

For Votic, the behaviour of the two suffixes can be accounted for phonologically via a difference in the underlying form of the vowels: /kɑ/ (with an underlying +BK vowel that does not alternate) and /zA/ (with an underspecified vowel that receives its value for BK via feature-filling processes). In addition to this low vowel alternation, BK harmony also is manifested by some (but not all) mid and high vowels. For example, the high round vowels [u] and [y] alternate in certain suffixes: [sø:-nny] ‘eaten’ / [arvɑ-nnu] ‘guessed, surmised’.

All the vowels mentioned so far as surface forms, also appear as underlying vowels that trigger harmony as expected, given their surface value for BK, e.g. [pævyt-tæ] ‘sun.PART.’ / [sut-tɑ] ‘wolf.PART.’. This behaviour contrasts with the apparent inconsistency of surface [i] in Votic. It appears not to trigger harmony, as in [varka-i-tɑ:] ‘thief.PL.PAR’ where the suffix appears to harmonize with the vowel preceding [i].

It is tempting to attribute the failure of /i/ to trigger harmony to a lack of a BK specification underlyingly. However, this conflicts with our underspecification account for alternations (like ɑ/æ) above. Such behaviour of [i] is not unusual in vowel harmony systems (Finnish, Hungarian, *inter alia*), but several factors make Votic worth considering. First, although the -BK of /i/ appears to be inert with respect to harmony, it is active in a process of lateral assimilation that fronts laterals before all -BK vowels. This inconsistent behaviour is analyzed in a modified version of Span theory (McCarthy, 2004) by Blumenfeld and Toivonen (2016). I critique this application of Span theory, and then offer an alternative that handles even the problematic data that the authors are forced to acknowledge.

Second, unlike most other languages with non-alternating [i], Votic has other vowels that don’t participate in alternations, [o, ø]. It is worth pointing out that these two mid round vowels, do not participate in BK harmony despite constituting a perfect harmonic pair, like the alternating [u, y].

Third, Votic vowel harmony is able to treat even sequences of /i/ as transparent ([kæikki-na:]), but also allow suffixes to be -BK when attached to roots that contains no vowels other than /i/ ([pilli:-tæ]).

My account has these properties:

- Blumenfeld and Toivonen (2016) posit that /i/ is *both* +Bk and -BK, because of its inconsistent behavior. My analysis posits a single, simple -BK /i/.
- Underspecification is used to capture the difference between alternating and non-alternating vowels.
- Feature-filling processes are modeled using the ‘partial’ function of unification, introduced for this purpose by Bale, Papillon and Reiss (2014).

- The apparent capacity of /i/ to trigger -BK harmony when no other trigger is present is modeled with a default feature-filling rule.
- The transparency of even sequences of more than one /i/ is accounted for using a version of the SEARCH and COPY discussed by Shen (2016) and others.