Only slightly crazy! Phonologically restricted root allomorphy in Dutch, Slovenian and Serbo-Croatian

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A small group of Dutch nouns and verbs illustrated in (1) display a pattern of root allomorphy in which allomorphs with long and short stem-final vowels have a phonologically optimizing distribution: the long-vowel version shows up in open syllables, the short-vowel version shows up in closed syllables.

(1) Dutch stems with root alternation

| a. nouns | SG | PL | |
|---|---|---|---|
| | lɔt | lo:tən | 'lottery ticket(s)' |
| | slɔt | slo:tən | 'lock(s) |
| b. 3rd person present tense of the verb *komen* 'come' | SG | PL | |
| | kɔmt | ko:mən | |

Kager (2009) proposes an OT analysis with the two root allomorphs stored as an unordered pair of underlying representations (e.g. the UR for 'lottery ticket' is /lɔt~lo:t/) and GEN can choose between the two when creating candidates (but it cannot combine elements of both in the same candidate). The distribution is determined by Markedness constraints generally invisible in Dutch evaluations because they are dominated by Faithfulness. Kager's analysis accounts for the data, but given the very few affixes which constitute the environment for the two versions ([Ø] and [t] for the short-vowel version, [ən] for the long-vowel version) it is hard to exclude a reanalysis which views the pattern as tied to specific morphemes rather than being caused by otherwise invisible Markedness. A reanalysis along these lines could assume that the suffix [ən] has an extra mora, which typically gets erased due to RootFaith>>AffixFaith (McCarthy & Prince 1995), but surfaces when the UR of the stem is an unordered pair of vowel-length allomorphs. The dilemma cannot be resolved using Dutch data only. However, Kager's analysis makes important and testable cross-linguistic predictions. First, if the distribution of the allomorphs is purely phonologically determined, there should exist languages in which allomorphs with the same phonological features (e.g. a long vowel) realise one syntactic feature in one inflectional class and the opposite feature in another inflectional class purely depending on the phonology of the inflectional morphemes. Such a language would look something like Dutch′ (2), having two different inflectional classes, one like the actual Dutch (2a) and one in which the singular suffix is /ə/, while the plural suffix is /s/. The long-vowel and short-vowel allomorphs surface either in the singular or in the plural, depending on the phonological context presented by NUM morphology.

(2) Dutch′ a. Inflectional class 1 (SG=Ø, PL=[ən]) b. Inflectional class 2 (SG=[ə], PL=[s])

| SG | PL | | SG | PL | |
|---|---|---|---|---|---|
| lɔt | lo:tən | 'lottery ticket(s)' | slo:tə | slɔts | 'lock(s)' |

Second, if Kager's analysis is correct, the 'revelatory power' of ordered pairs of allomorphs should not stop at Markedness: there should also exist languages in which allomorph selection is influenced by otherwise masked Faithfulness constraints. I argue that Slovenian is like Dutch′ and that Serbo-Croatian has a unordered-pair UR which reveals a Faithfulness/Markedness interaction otherwise entirely masked by higher-ranked constraints.

Slovenian verb forms have the structure Root(√)-Theme(θ)-Tense & Agreement Morphology($\phi$). There is considerable root allomorphy (*kl-a-ti* 'to slaughter' vs. *kol-je-m* 'I slaughter') and a verb can take different theme vowels in different tenses (*kl-a-ti* 'to slaughter' vs. *kol-je-m* 'I slaughter'). Traditional grammars therefore analyse the sequences √+θ as single units called bases bases and each verb is analysed as having two distinct bases: an inifinitival and a present-tense base. I will use $\theta_1$ and $\theta_2$ for the two theme vowels. There are a dozen possible combinations of $\theta_1$ and $\theta_2$, which I consider

inflectional classes. One of the reasons for the traditional concept of the base is the generalisation that in cases of root allomorphy, each root allomorph co-occurs with one of the theme vowels.

In the wake of recent development in Distributed Morphology (Lowenstamm 2014) I assume that (a) derivational affixes are roots and (b) sequences shared by different words can in principle be analysed as roots, even in the face of no evident semantic content. Such an analysis resolves a traditional problem presented in Šekli (2005), where there are two kinds of verbs in *-ovati*, *-ujem*: (a) those in which these sequences can be analysed as containing a derivational suffix, e.g. *dar-ov-a-ti* 'to present', *dar-u-je-m* 'I present' (related to *dar* 'present'), and those in which there is only root allomorphy and no derivational suffix, e.g. *kov-a-ti* 'to forge', *ku-je-m* 'I forge'. My reanalysis amounts to allowing *k-ov-a-ti* 'to forge', *k-u-je-m* 'I forge' even though √K never occurs on its own and √OV does not seem to contribute any meaning. This analysis being in place, we can turn to *ov~u* allomorphy. The distribution is entirely predictable by well-established constraints Onset and NoCoda. Quite spectacularly, since √OV surfaces in different inflectional classes, its allomorphs can appear within both traditional bases. This is exactly what we expect from Dutch′.

(3) Slovenian

a. Inflectional class 1 ($\theta_1$=a, $\theta_2$=je)

| √-√-$\theta_1$-INF | √-√-$\theta_2$-1SG |
|---|---|
| k-ov-a-ti | k-u-je-m |
| 'to forge' | 'I forge' |

b. Inflectional class 2 ($\theta_1$=∅, $\theta_2$=e)

| √-√-$\theta_1$-INF | √-√-$\theta_2$-1SG |
|---|---|
| rj-u-∅-ti | rj-ov-e-m |
| 'to scream' | 'I scream' |

Since much depends on the analysis of the inflectional classes, I illustrate 'normal' verbs in these classes.

(4) a. Inflectional class 1 ($\theta_1$=a, $\theta_2$=je)

| √-$\theta_1$-INF | √-$\theta_2$-1SG |
|---|---|
| or-a-ti | or-je-m |
| 'to plough' | 'I plough' |
| kl-a-ti | kol-je-m |
| 'to slaughter' | 'I slaughter' |

b. Inflectional class 2 ($\theta_1$=∅, $\theta_2$=e)

| √-$\theta_1$-INF | √-$\theta_2$-1SG |
|---|---|
| nɛs-∅-ti | nɛs-e-m |
| 'to carry' | 'I carry' |
| i-∅-ti | gr-e-m |
| 'to go' | 'I go' |

Turning to Serbo-Croatian, there is one noun which is traditionally described as displaying progressive voicing assimilation. It is illustrated in (5) and the assumed UR would be /mozk/.

(5) Serbo-Croatian

| | SG | PL |
|---|---|---|
| NOM | mozak | mozg-ov-i |
| GEN | mozg-a | mozg-ov-a |
| DAT/LOC | mozg-u | mozg-ov-ima |
| INS | mozg-om | mozg-ov-ima |

I argue that the UR is the unordered pair /mozk~mozg/ and that the evaluation also reveals an interaction between *VoicedCoda and IdentIO(voice).

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