On the proper treatment of (non-)cyclicity in Maltese

Maltese presents a classic example of cyclic phonology (Brame 1974): syncope in unstressed open syllables, as in /ḥataf+na/ → [ḥtáfna] 'we snatched', fails to affect vowels of object-marked verbs if the vowel would have the main stress in the corresponding bare stem: /ḥataf/ →[ḥátaf] 'he snatched', /ḥataf#na/ → [ḥatáfna], *[ḥtáfna] 'he snatched us'. The cyclic analysis is that the stem /ḥataf/ undergoes an initial cycle, with stress being assigned to the first syllable; this is demoted to secondary stress on the next cycle when the object marker is added, and this secondary stress protects the vowel from syncope.

Since the advent of Optimality Theory (Prince & Smolensky 2004), several theories of cyclic effects have emerged. Relatively little attention has been paid to what implications the Maltese data have for the choice between them. This talk examines that question, focusing on a paradox pointed out by Odden (1993): vowel-final stems with object markers show no evidence of inner-cycle stress: [ʔára] 'he read', [ʔráːna] 'he read us'(*[ʔaráːna]); see also Sutcliffe (1936: 157, 160).

This effect, I show, can be obtained straightforwardly in Optimal Interleaving (OI: Wolf 2008), a theory of cyclicity cast within McCarthy's (2007) OT with Candidate Chains. OI is known to be able to model 'local ordering' effects (Anderson 1974) in which transitivity of ordering is violated. The Maltese data can be treated as such: normally stress assignment precedes insertion of object markers, and the object markers' presence makes possible lengthening of stem-final vowels, but stress assignment is put off until after lengthening.

An analysis in Stratal OT (Kiparsky 2000) is possible if vowel-final constituents get final stress in the Stem-level output: /ʔaráː/. This accounts for the lack of secondary stress on the first vowel. This analysis works mechanically, but is unattractive because it requires abandoning several different proposed limits (Kiparsky 1997, Itô & Mester 2003; Koontz-Garboden 2003) on how much the constraint ranking may differ from stratum to stratum. I show that this analysis of Maltese requires that the pairwise rankings of two markedness constraints, as well as of a markedness and a faithfulness constraint, be different in the Stem and Word levels. This goes a long way towards there being no limits at all on inter-stratum re-ranking, in which case Stratal OT heavily overpredicts language typology. Further, as I show, as many as six strata would be needed in Maltese (twice what most Stratal OT work assumes), which compounds the problem.

Finally, I show that an analysis using output-output faithfulness (Benua 1997) is untenable. Stems ending in <għ> behave as consonant-final, showing evidence of cyclic stress (e.g. Sutcliffe 1936: 158). However, the contrast between V-final and għ-final stems is neutralized in the unaffixed form of the stem, which would be the base of OO-correspondence. The Maltese data thus support OI as the preferable theory of phonology/morphology interleaving effects.