Reconciling Diachronic and Synchronic Analyses of Lenition and Eclipsis in Irish Gaelic: An Optimality Theoretic Approach

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TOPIC:
Initial Consonant Mutations (ICM) in Irish Gaelic are a phenomenon with two processes—Lenition and Eclipsis.
Lenition: a stop becomes its corresponding fricative; i.e. [-cont.] → [+cont.]
Eclipsis: a voiceless consonant becomes voiced, or a voiced consonant becomes its corresponding nasal; i.e. [-voice] → [+voice] or [+voice, -nasal] → [+nasal]
Historically, they were phonological and occurred intervocalically for Lenition and after nasals for Eclipsis.

PUZZLE:
In Modern Irish, these processes have been 'grammaticalized' and show up in particular morphosyntactic environments.
How does one analyze these processes in the modern language?

ANALYSIS:
OT approach
Mutations are a result of phonologically unsegmented morphemes in the morphosyntax
Constraint Realize Morpheme (van Oostendorp 2005) is the trigger
Morphemes contain phonological features but no segments
Featural affixation satisfies Realize Morpheme and that surfaces as mutation

CONCLUSIONS:
Mutations are sensitive to Irish syllable structure, but not faithfulness
A ranking of: {syllable constraints} >> Realize Morpheme >> {faithfulness constraints}

EXAMPLE:
Lenition:

Table 11

/ə$_{3rd}$-[+cont.]$_{1\,GEN.SG.-FEM}$ t$_{[-cont.]2}$ax/ 'his house'	D	*[+coronal, +cont., -son.]	R	O	N	M	I([-cont.])	I([+palatal])
☞/ə $\chi_{[+cont.]1}$ax/						*	*	
/ə t$_{[-cont.]2}$ax/			*			*		
/əC$_{[+cont.]1}$ t$_{[-cont.]2}$ax/	*				*			
/ə S$_{[+cont.]1}$t$_{[-cont.]2}$ax/	*							
/ə V$_{[+cont.]1}$ t$_{[-cont.]2}$ax/	*				*			
/ə s$_{[+cont.]1}$ax/		*				*	*	*

REFERENCES:
VAN OOSTENDORP, MARC. 2005. Expressing inflection tonally. Catalan Journal of Linguistics 4. 107-126. ISSN: 1695-6885.