University of Pennsylvania Working Papers in Linguistics

Volume 9
Issue 1 *Proceedings of the 26th Annual Penn Linguistics Colloquium*

Article 16

1-1-2003

Relativized Mutation Domains in the Celtic Languages

Elizabeth Pyatt

Relativized Mutation Domains in the Celtic Languages

Relativized Mutation Domains in the Celtic Languages

Elizabeth J. Pyatt

1 Introduction[1]

Most linguists assume that two conditions must be met in order for a mutation to be triggered. One is that the mutation target and trigger must be string adjacent (Zwicky 1984) and that some locality condition must be satisfied (Zwicky 1984, Harlow 1989, Hannahs 1996). In this paper, I propose a Mutation Blocking Condition which states that mutation only occurs if both the target and the trigger are both in the prosodic domain one size larger than the trigger. As the prosodic size of the trigger increases, the mutation domain will similarly increase. Section 2 of this paper will look at some general facts of mutation followed by the blocking data and analysis in Section 3 and ending with a short discussion of theoretical implications in Section 4. Data is taken from Welsh, Irish, Breton and Old Irish.

2 Target Adjacency

Mutations are a class of phonological rules on targets triggered by morphosyntactic features of neighboring morphemes. In the Celtic languages, mutation triggers change voicing, continuancy or nasality of word-initial consonants in targets. An important property of mutations is that, in most cases, the target and trigger must be string adjacent (1-2)[2,3]

(1) Welsh Mutation Target Adjacency
   a. *ci* /ki/'dog'
   b. *ei gi* /i gi/ 'his dog' {L}
   c. *tri chi* /tri xi/ 'three dogs' {S}
   d. *ei dri chi* /i dri xi/ 'his three dogs' {L,S}

[1] Portions of the material were presented in my 1997 dissertation. I would like to thank Andrea Calabrese, Morris Halle, Sam Epstein, and the Penn State Phonology Circle and the audience of the Penn Linguistics Colloquium for their thoughtful comments and assistance. All errors are my own.

[2] This condition is not strict. There do appear to be cases in Modern Irish where a single mutation appears to "propagate" after a Lenition trigger (Ó Siadhail 1989).

[3] The symbols {L}, {S}, {N}, {H} are used to represent the mutations Lenition, Spirant Mutation, Nasal Mutation and /h/ Insertion. In the Irish transcriptions, /C′/ represents a palatalized consonant.

(2) Irish Mutation Target Adjacency (Christian Bros. 1990)

a. *iníon* /in′i:n/ ‘daughter’

b. *a n-iníon* /ʎ n′in′i:n/ ‘their daughter’ {N}

c. *cúigiú hiníon* /ku:g′u: hin′i:n/ ‘fifth daughter’ {H}

d. *a gcúigiú hiníon* /ʎ gu:g′u: hin′i:n/ ‘their fifth daughter’ {N,H}

As can be seen in (1), the Welsh genitive clitic *ei* ‘his’ triggers Lenition on the following noun *ci* ‘dog’ (1a) which becomes *gi*. In (1b) *tri* ‘three.masc’ triggers Spirant Mutations causing *ci* ‘dog’ to become *chi* /xi/. When all three words come together in (1c), *ei* ‘his’ Lenites the following word *tri* ‘three.masc’ to *dri* while *tri* itself triggers the Spirant mutation on *ci* ‘dog’. Similarly, in (2c), when *a* ‘their’ + *cúigiú* ‘fifth’ + *iníon* ‘daughter’ are together, *a* Nasalizes *cúigiú* which surfaces as *gcúigiú* /gu:g′u:/ and *cúigiú* in turn triggers /h/ Insertion on *iníon* ‘daughter’.

While Target Adjacency must be satisfied in order for mutation to occur, it is not the only condition necessary. As the next section shows, if a mutation trigger and target are in two different “mutation domains”, mutation will be blocked even if they are string adjacent.

3 Mutation Blocked

3.1 Welsh Post Subject Lenition

In Welsh, the first word after subject NP is usually Lenited.[4] Targets of this rule include indefinite nouns (3a), numbers (3b), non-finite verbs (3c) and other word classes.

(3) Welsh Post Subject NP Lenition

a.	*Gwelodd*	*Gwen*	*gath (=cath).*		
	saw	G.	{L}-cat		‘Gwen saw a cat.’
b.	*Gwelodd*	*Gwen*	*dair (=tair)*	*cath.*	
	saw	G.	{L}-3.fem	cat (fem)	‘Gwen saw three cats.’
c.	*Gall*	*Gwen*	*weld (=gweld)*	*cath.*	
	Can	G.	{L}-see	cat	‘Gwen can see a cat.’

[4] This is also known as the “Direct Object” mutation, but Harlow (1989), Ball and Müller (1992), Borsley and Tallerman (1996) and Borsley (1997) argue that the generalization is the post-subject position. When direct objects are fronted or do not immediately follow the subject, they do not Lenite.

But when the first word after the subject DP is in a different clause, the Lenition is blocked (4). Here the expectation is that *pwy* 'who' should Lenite to *bwy* because it is after the subject DP *Gwen*, yet mutation is blocked.

(4) Post Subject NP Lenition Blocked in Clauses

Gofynnodd	*Gwen*	[$_{CP}$	*pwy (*bwy)*	*a*	*welodd*	*gath.*]
asked	G		who	Aff	{L}-saw	{L}-cat

'Gwen asked who saw a cat.'

To account for the facts in (3-4), Harlow (1989) proposed that mutations were restricted to clause boundaries. But as Ball and Müller (1992) noted, if the mutation trigger is *a* 'and', then mutation, the Spirant mutation, in this case, can cross a clause boundary (5a) and in Irish, a preposition can mutate the first word of a clausal complement (5b).

(5) Mutation Crossing Clause Boundaries

a.

Gofynydd	*Gwen*	*hynny*	*a*	[$_{CP}$ *phwy (=pwy)*	*a*	*welodd gath ddu.*]
asked	G.	that	&	{S}-who	[+Wh]	saw cat black

'Gwen asked that and who saw a black cat.'

b.

ag argóint	*faoi*	[$_{CP}$	*chéard (=céard)*	*a ba ...*
Pr argue	under		{L}what	be

'arguing about what is…'

To account for the distinction between the clause blocking a mutation in (4), but not in (5), Hannahs (1996) proposed that the mutation domain was not the clause but its prosodic equivalent—the intonational phrase (Nespor and Vogel 1986).

For the Welsh sentences in (4), Hannahs proposes that the post-subject constituents in (4a-c) are in the same intonational phrase (ι) as the trigger subject NP (6a-c), but that in (5), the CP constituent is in a different intonational phrase which causes the mutation to be blocked (6c). Following the algorithm of Selkirk (1986) and Chen (1985), I assume that prosodic domains are initially mapped onto syntax by aligning prosodic boundaries with left or right brackets of key syntactic boundaries. In this case, the bracket of the intonational phrase would be aligned with left CP bracket (6c).

(6) Welsh Intonational Phrase Boundaries

a.

[$_{\iota}$	*Gwelodd*	*Gwen*	*gath (=cath).*]
	saw	G.	{L}-cat

'Gwen saw a cat.'

b. $[_\iota$ *Gwelodd Gwen* *dair (=tair)* *cath.*]
saw G. {L}-3.fem cat (fem)
'Gwen saw three cats.'

c. $[_\iota$ *Gall Gwen* *weld (=gweld)* *cath.*]
Can G. {L}-see cat
'Gwen can see a cat.'

d. $[_\iota$ *Gofynnodd Gwen* $][_{\iota=CP}$ *pwy (*bwy)* *a* *welodd* *gath.*]
asked G who Aff {L}-saw {L}-cat
'Gwen asked who saw a cat.'

In (5a) however, the conjunction *a* 'and' and the following clause are in the same intonational boundary, so mutation is not blocked (7). More specifically, *a* 'and' is a light word or prosodic clitic (κ) and must be incorporated into a clitic group (K) along with the larger maximal word (ω), *pwy* 'who'.[5]

(7) Prosodic Boundaries of *a phwy*
$[_\iota$ *Gofynnodd* *Gwen* *hynny*] $[_\iota [_K$ *a* *phwy*] *a* *welodd* *gath.*]
asked G that & {S}-who Aff {L}-saw {L}-cat
'Gwen asked that and who saw a cat.'

Following McHugh (1990), I assume that prosodic domains are built "bottom-up" so that smaller units such as clitic groups are constructed first and incorporated into larger prosodic units. Therefore, even though a left CP bracket between the conjunction *a* 'and' and the following Who-word *pwy*, because they already form a clitic group, the entire constituent will fall within the same intonational phrase and *a* will mutate *pwy* into *phwy*.

Despite the appeal of this analysis, it unfortunately cannot account for all blocking data in the Celtic data. As will be seen in the following sections, blocking can occur even when both constituents are within the same clause or intonational phrases. To account for these facts I will propose a modification to Hannahs' analysis such that the prosodic boundary which can block mutation is determined by the prosodic size of the trigger.

---

[5] In this paper, I will use K for clitic group (or "maximal word") instead of the more usual "C" in order to distinguish it from CP. The symbol K will be used for prosodic clitics, also known as "light words."

3.2 Breton Heavy NPs

Another case of mutations being blocked by prosodic boundaries can be found in Breton. As can be seen in (8a-b), the Breton preposition *war* 'on' triggers Lenition on the following noun. However in (8c), when the noun *moriou* 'seas' is part of the heavy NP *moriou at c'hreistez* 'seas of the south', mutation is blocked. Most interestingly, in (8d) Lenition on the heavy NP *toenn an ti* 'roof of the house' is optionally blocked. In some cases Lenition occurs, and in others it does not.

(8) *Breton Heavy NPs* (Press 1986)

a. *war vor (=mor)*
on {L}-sea 'at sea'

b. *war doenn (=toenn)*
on {L}-roof 'on a roof'

c. *war moriou ar c'hreisteiz* (expect *war voriou*)
on seas the South
'on Southern seas.'

d. *war toenn an ti*
on roof the house
'on the roof of the house'

OR e. *war doenn an ti*
on {L}-roof the house
'on the roof of the house'

The fact that blocking can be triggered by Heavy NPs again suggests a prosodic solution. However, the blocking boundary appears not to be the intonational phrase, but the phonological phrase (ϕ). When the preposition *war* 'on' is in the same phonological phrase as the following word (8a-b), Lenition occurs as expected. However in Breton, as in many other languages, it appears that Heavy NPs can form their own phonological phrases even within a PP, and in those cases, this forms a barrier to mutation (9).

(9) Differences in Phrasal Constituencies

a. [$_{\phi}$ war dönn]
b. [$_{\phi}$ [$_{K}$ war dönn] [$_{\pi}$ an ti]]
c. [$_{\phi}$ [$_{K}$ war]] [$_{\phi}$ [$_{K}$ tönn] [$_{\pi}$ an ti]]

This Breton preposition *war* 'on' is a full CVC syllable, so may in fact form its own maximal word or clitic group K[6]. Normally the preposition *war* is typically grouped with the following noun in the same phonological phrase, so Lenition surfaces as expected (9a,b). However, when a Heavy NP

[6] For other mono-moraic prepositions and particles in Breton and other Celtic languages, the evidence shows that they likely only of the prosodic clitics (κ).

follows, such as the noun modified with a genitive construction (8c,d), the prosody of Breton can bracket the NP in its own phonological phrase, leaving *war* 'on' in its own phonological phrase (9c). Since *war* is in a different phonological phrase in those instances, mutation is blocked. Interestingly, it appears that even with a Heavy NP, Breton can bracket *war* in the same phonological phrase, thus permitting Lenition to surface (8e).

The question is why does the ϕ boundary block mutation for Breton prepositional mutation, but not in Welsh post Subject Lenition? Further, if the ϕ boundary does not block post Subject NP Lenition, why does the ι boundary do so? The answer, I propose, is due to the prosodic size of the mutation trigger.

3.3 Mutation Blocking Condition

Both the Welsh and Breton mutation blocking appear to be connected to prosodic boundaries, yet the boundary is different in both languages. The blocking domain is the intonational phrase for Welsh Post Subject NP Lenition, but the phonological phrase for Breton *war* 'on' Lenition. The difference between these two mutations is the prosodic size of the trigger.

In the Welsh case, the trigger is the subject NP which would be the size of a phonological phrase (ϕ). In Breton the trigger is the preposition *war* 'on' which is the size of a maximal word or prosodic clitic group (K). In both cases, the domain that both the target and the trigger needed to be in corresponds to the prosodic domain one size larger than the trigger (10). The Prosodic Domain Hierarchy I am assuming is listed in (11).

(10) Mutation Blocking Condition

For a trigger of a prosodic constituent size n, mutation will be blocked unless both the target and the trigger are within the same $n+1$ prosodic constituent.

(11) Prosodic Hierarchy (Nespor & Vogels 1986)

ι = Intonational Phrase (correlates with clause)
ϕ = Phonological Phrase (correlates with lexical XP)
K = Clitic Group/Maximal Word (lexical word + function words)
ω = Phonological Word (lexical word)
κ = Phonological Clitic (light prosodic function words, clitics)

For Welsh Post Subject NP Lenition, because the trigger is the size of a phonological phrase (ϕ), the domain will be one size larger, or the intonational phrase. For Breton *war* 'on', prosodic size of a K, the domain is one size larger or the phonological phrase. Another case of a K, or maximal word mutation, trigger being confined to the phonological phrase can also be found in Modern Irish Feminine Singular mutation (12).

(12) Irish Feminine Singular Mutation

a.	*Tá* [$_{NP=\phi}$	*an*	*bhróg (=bróg)*	*mhór (=mór)*]	*anseo.*
	Is	the.f	{L}-shoe.f	{L}-big	here

'The big shoe is here.'

b.	*maidin*	*fhomhair (=fomair)*	(Christian Brothers 1990)
	morning.f	{L}-autumn.gen	'an autumn morning'

c.	*Tá* [$_{NP=\phi}$	*an*	*bhróg (=bróg)*]	*mór (*mhór)*
	Is	the.f	{L}-shoe.f	big

'The shoe is big.'

In the Irish Feminine Singular Lenition, words which follow a feminine singular noun, both adjectives (12) and genitive singular nouns (12b), are Lenited. But if the following adjective is not in the same NP as in (12c), mutation is blocked.[7] Since the trigger is again the maximal word (K), the prediction is that the domain would be one size larger, or the phonological phrase, the prosodic correlate of an XP. Thus the fact that mutation is blocked when the following adjective is not in the same NP as the feminine singular noun is consistent with this analysis.

Just like Breton, Irish appears to show Heavy XP effects. When a following adjective is preceded by an adverb such as *measartha* 'moderately' mutation is again blocked on the following adverb (13).

(13) Blocking with Heavy AP

bróg	[$_{AP=\phi}$	*measartha (*mheasartha)*	*mór*]
shoe.f		moderately	big

'a moderately big shoe.'

The Mutation Blocking Condition above also predicts that if a mutation trigger is the size of a prosodic clitic (κ), the mutation will be confined to the clitic group. Example of blocking outside the clitic group can be found in Old Irish (14).

[7] One unusual feature of Irish Lenition is that it can "propagate" to following words, even across conjunctions, from the original trigger (O' Siadhail 1989). However, the condition that the target and trigger are in the same XP still stands.

(14) *Old Irish Object Enclitics*

a. *Ithid* *an muc* *in dercain* *anúnas*
eats the pig the acorn.f from above
'The pig eats the acorn from above.'

b. *Ní ith in dercain anúnas*
Neg eats the acorn from above
'It eats the acorn from above.'

c. *ní-s-nith* *anúnas*
Neg-3sf-{N}eats from above
'It doesn't eat it (f.) from above.'

d. *Iti-us anúnas (*n-anúnas)*
Eat-3sf from above (*{N} from above).
'It eats it from above.' (Milan gloss 102a15)

Old Irish is a VSO language much like Modern Irish and Modern Welsh (14a) but also pro drop (14b). Further, pronominal direct objects are realized as "Wackernagel" second-position enclitics, that is hosted onto C^o (Carnie, Harley and Pyatt 2000). These enclitics normally trigger mutations on the following conjugated verb (14c). However, if there is no overt complementizer, the verb raises to C^o and hosts the direct object pronoun. However, mutation between an object enclitic on an inflected verb and a following word is always blocked (Thurneysen 1981) (14d).

To account for the blocking facts, I assume that the object enclitics are of size κ, meaning that the mutation domain is the prosodic clitic group K, that is the inflected verb plus the associated clitics. As diagrammed in (13a), the object clitic *-s* 'her' triggers Nasal mutation on the following inflected verb *ith* 'eats' because both the target and trigger are within the same clitic group. Based on the structure in (13b) though, Nasal mutation from *–s* 'her' is blocked because the target *anúnas* 'from above' is in a different clitic group than *–(u)s*.[8]

[8] In the same vein, you would expect that mutation triggers smaller than a clitic group, that is morphemes, would be confined to a prosodic ω. Indeed, there are affixes which trigger mutation, but because morpheme order is generally more rigid than word order, I have yet to discover cases of blocking in affix triggers where the target is in a different ω.

(13) Old Irish Clitic Group Constituencies

a.	[$_K$	*ní -s n-ith*]	[$_K$	*anúnas*]
		Neg-3sf-eats		from above
b.	[$_K$	*iti-**us***]	[$_K$	*anúnas* / **n-anúnas*]
		eat-3sf		from above

Taking data from four Celtic language it appears possible to generalize mutation blocking to a Mutation Blocking Condition (14) which specifies that that both the target and the trigger must be in the same prosodic domain corresponding to one size larger than the prosodic size of the trigger. Such a generalization would explain why the domain appears to expand to the clause in Welsh but shrink to XPs in Irish and Breton. Other facts this analysis explains is why some mutations are blocked by boundaries which other mutations can cross such as Welsh Post-Subject Lenition versus Spirant mutation after *a* 'and'. When Mutation Blocking is made dependant on the size of the trigger and hence different prosodic domains, variations in blocking patterns will occur. However this prosodic analysis of mutation blocking does raise interesting theoretical issues on the nature on the syntax-phonology interface, some of which will be addressed in the next section.

4 Theoretical Implications

4.1 Theoretical Assumptions

For this discussion I will assume that mutations are essentially a phonological process, although triggered by mutation diacritics, not floating features or segments (14).[9]

(14) Welsh Nasal Mutation Phonological Readjustment

M = morpheme, [{N}] Lenition diacritic morphological feature

[-sonorant, -cont] → [+nasal] M [#___

[{N}]

Since such a wide variety of morphemes can trigger Nasal mutation in Welsh, a mutation diacritic feature [{N}] is used as a way to unify the mutation environments in one phonological rule. However, following the Distributed Morphology (Halle and Marantz 1993) analysis of Pyatt (1997), I assume that a number of morphological readjustment rules assign diacritics to

[9] For more complicated mutation sound changes, I follow Pyatt (1997) and assume that these are formulated as a set of ordered rules.

morpheme classes bearing specified features. One of these assigns an [{L}] diacritic to Irish nouns and adjectives which are feminine singular and non-genitive (15)

(15) Irish Feminine Singular Morphological Readjustment Rule
[ ] → [{L}] / [+feminine, -plural, -genitive]

These morphological readjustment rules not only simplify lexical representation, but capture the notion that mutation can sometimes be connected to agreement.

4.2 Deriving the Mutation Blocking Condition

One issue to address is whether it is plausible for a mutation rule to refer to prosodic constituents instead of syntactic constituents. Although mutations are triggered by morpho-syntactic features, it is necessary for the phonological readjustment rules to access prosodic information in order to determine the target consonant which undergoes. Any model of Celtic mutation must assume that the stage of grammar where mutation occurs must have visible word boundaries and prosodic in order to determine which word is the target and which segment is word initial. Since some non-Celtic mutations such as in Fula (Lieber 1984) affect segments which are not word-initial, this is not a trivial operation. Therefore, it is not unreasonable to assume that prosodic domains might be visible at this stage.

Assuming that the Mutation Blocking Condition exists, is it possible to derive any of its properties? The short answer is that the Mutation Blocking Condition specifies the smallest possible prosodic domain relative to the trigger in which mutation can be visible. If the Mutation Blocking Condition restricted mutations to the same prosodic unit as the trigger or smaller, no mutation would ever be visible because the boundary of the trigger itself would block all mutations (16).

(16) Smaller Mutation Domain

a.	[K *ní -s n-ith*]			[K *anúnas*]	
	Neg-3sf-{N}eats			from above	
b.	[K *iti-us*]			[K *anúnas* / **n-anúnas*]	
	eat-3sf			from above	
c	*[K [κ *ní*]	[κ *–s*]	[κ *ith*]]	*anúnas*	(κ blocks)
	Neg	-3sf-	eats	from above	

While the minimal end of the Mutation Blocking Condition can be derived, it is not as easy to derive the maximal end. One possibility could be to appeal to Optimality Theory and ranked constraints (17).

(17) Ranked Constraints

MUTATE – The mutated form surfaces when the target is in the appropriate morpho-syntactic environment with respect to the trigger.

MINDOM – "Minimize Mutation Domain". Block mutation if a prosodic boundary of a level higher than trigger intervenes between the target and trigger

FAITH – Input matches output

MINDOM >> MUTATE >> FAITH

war 'on' + *toenn* 'roof' + *an ti* 'house'	**MINDOM**	**MUTATE**	**FAITH**
* [$_\phi$ *war* [$_\phi$ *toenn an ti*]]		*	
…[$_\phi$ *war doenn an ti*]]	*		*

The above tableau presents three ranked constraints – MINIMIZE DOMAIN (MINDOM) which is ranked higher than MUTATE which is ranked higher than the FAITHFULNESS family of constraints. The MUTATE constraint specifies that if there is a target and mutation trigger are string adjacent, then the target surfaces in its mutated form. MUTATE must outrank FAITH in most cases in order for the mutated allomorph to surface. If FAITH outranked MUTATE, then the mutated allomorph would not surface.

The MINDOM constraint specifies that mutation is blocked when a prosodic domain boundary for any constituent larger than the trigger comes between the target and trigger. Because MINDOM is ranked above MUTATE, mutation blocking occurs in the environment of the Mutation Blocking Condition.

Although the above Optimality Theoretic account generally makes the correct empirical predictions, it is still somewhat of an arbitrary formulation. Other than the fact that mutation is blocked, there is no additional justification for the MINDOM constraint. A grammar could just as easily be constructed in which mutation blocking never occurs. Further, there is no readily apparent explanation as to why MINDOM appears to dominate MUTATE in all the Celtic languages.

Another explanation for this constraint assumes a more cyclic approach. Recall from the discussion of Welsh *a* 'and' Spirant Mutation, that a bottom-up approach (McHugh 1990) was assumed to account for the fact that *a pwhy* 'and who' was grouped into the same clitic group and hence the same intonational phrase even though there was an intervening CP boundary (18).

(18) Prosodic Boundaries of *a phwy* = Example (7)
[$_\iota$ *Gofynnodd Gwen hynny*] [$_\iota$ [$_K$ *a phwy*] *a welodd gath.*]
asked G that & {S}-who [+Wh] {L}-saw {L}-cat
'Gwen asked that and who saw a cat.'

Perhaps mutations are also evaluated in a bottom-up approach with only the next-larger domain being visible. In this scenario, as the grammar constructs or evaluated a prosodic domain *n*, it may scan the string to see if any mutation triggers of size *n-1* are contained within the domain and if there are any target segments in the string. Once domain construction begins at level *n+1*, only triggers of size *n* are scanned for mutation diacritics; smaller units are ignored (19).

(19) Cyclic Mutation Evaluation
a. *Gwelodd* [*cath a <u>ch</u>i (=ci)* $_{NP}$] *<u>dd</u>raig (=draig)*
saw cat & {S}-dog dragon
'A cat and a dog saw a dragon.'

b. [$_K$ *a ci*] (Evaluating a K)
[[S}]

c. [$_\iota$ [$_\phi$ *Gwelodd*] [$_\phi$ *cath a chi*] [$_\phi$ *draig*]] (Evaluating an ι)
[{L}]

This mechanism is similar to the Epstein (1999) proposal that c–command relations can be derived from a bottom-up construction of syntactic constituents. Whether psycholinguistic evidence can be found to support this theory still remains to be seen.

4.3 Mutation Blocking and Rebracketing

One interesting issue still to be explored are cases when prosodic boundaries are such that mutations are not blocked even when larger prosodic boundaries are crossed. For instance, the Welsh definite article *y(r)* Lenites feminine singular nouns and is usually grouped into the same clitic group as the nouns (20a). However, if the word preceding the definite article ends with a vowel, then the article is elided to the previous word, thus belonging to a different clitic group than the noun (20b). Unexpectedly though mutation is not blocked.

(20) Welsh Feminine Singular Lenition

a.	[$_K$ *y ferch (=merch)*]				'the girl'
b.	[$_K$	*Mae'r*]	[*ferch (*merch)*]	[*yma*]	
		Is'the	{L}-girl	here	'The girl is here.'

Similarly, Seidl (1998) reports that Mende phonological phrases can differ from the domain of the Mende mutation rule. To account for the Mende facts Seidl (2000) proposes a derivational model in which prosodic domains can be rebracketed after certain processes such as mutation have occurred. This would be consistent with Pyatt (1997) and Awberry's (1976) analysis that mutation occurs in the very first phonological component.

An alternate proposal could be to abandon a prosodic account in favor of a syntactic approach. The objection to that would be that a syntactic approach would not be able to account for the heavy XP variations in Breton or why heavy APs can block Lenition in Irish. Moreover, since the size of the trigger seems to be a factor in determining the Mutation Blocking Condition, it would seem that appealing to prosodic domains would be a more natural approach to the problem.

5 Conclusion

This paper has attempted to unify a variety of contradictory mutation blocking data from four different Celtic languages by proposing a Mutation Blocking Condition which varies according to the trigger size. Although this account is able to provide a unified account for the blocking data, including heavy XP effects, there are still theoretical issues about the relation between prosodic domains and mutation that need to be answered.

References

Awberry, Gwenllian M. 1976. *The Syntax of Welsh: A Transformational Study of the Passive.* Cambridge: Cambridge University Press.

Ball, Martin J. and Nicole Müller. 1992. *Mutation in Welsh.* London: Routledge.

Borsley, Robert D. 1997. Mutation and case in Welsh, *Canadian Journal of Linguistics* 42 (1-2): 31-56.

Borsley, Robert D. and Maggie Tallerman. 1996. Phrases and soft mutation in Welsh, *Journal of Celtic Linguistics* 5: 1-61.

Carnie, Andrew, Heidi Harley and Elizabeth J. Pyatt. 2000. VSO order as raising out of IP? Some evidence from Old Irish. In Carnie, Andrew, and Eithne Guilfoyle, eds., *The Syntax of Verb Initial Languages*. Oxford: Oxford University Press.

Chen, M. 1985. The syntax of phonology: Xiamen tone sandhi, Ms. University of California, San Diego.

Christian Brothers. 1990. *New Irish Grammar*. Dublin: Fallons.

Epstein, Samuel D. 1999. Un-principled syntax and the derivation of syntactic relations. In Epstein, Samuel D. and Norbert Hornstein, eds., *Working Minimalism*. Cambridge, MA. : M.I.T. Press.

Halle, Morris and Alec Marantz. 1993. Distributed Morphology and the pieces of inflection. In Hale, Kenneth and Samuel J. Keyser, eds., *The View from Building 20*. Cambridge, MA: M.I.T. Press.

Hannahs, S.J. 1996. Phonological structure and soft mutation in Welsh. In Kleinhenz, Ursula, ed., *Interfaces in Phonology (Studia Grammatica 41)*. Akademie Verlag.

Harlow, S. 1989 The syntax of Welsh soft mutation, *Natural Language and Linguistic Theory* 7: 289-316.

Lieber, Rochelle. 1984. Consonant gradation in Fula: an autosegmental approach. In Aronoff, Mark and Richard T. Oehrle, eds., *Language Sound Structure*, Cambridge, MA: M.I.T. Press.

McHugh, Brian D. 1990. The phrasal cycle in Kivunko Chaga tonology. In *The Phonology-Syntax Connection*, eds. Sharon Inkelas and Draga Zec, 217-242.

Nespor, Marina and Irene Vogel. 1986). *Prosodic Phonology*. Dordrecht: Foris Publications.

Ó Siadhail, Mícheál. 1989. *Modern Irish: Grammatical Structure and Dialectal Variation*. London: Cambridge University Press.

Press, Ian. 1986. *A Grammar of Modern Breton*. Berlin: Mouton de Gruyter.

Pyatt, Elizabeth J. 1997. *An Integrated Model of the Phonology and Syntax of Celtic Mutation*. Doctorial Dissertation. Harvard University.

Roberts, Ian. 1997. The syntax of direct object mutation in Welsh, *Canadian Journal of Linguistics* 42: 141-168.

Seidl, Amanda. 1998. Non-segmental morphological case: The case of consonant mutation in Kpa Mende, Workshop on the Effects of Morphological Case, Utrecht Institute of Linguistics OTS, Utrecht University, 28-29 August 1998.

Seidl, Amanda, 2000. Phonological domain paradoxes, North American Phonology Conference 1, Spring 2000

Selkirk, Elisabeth O. 1986. On derived domains in sentence phonology. *Phonology Yearbook* 3: 371-405.

Thurneysen, Rudolph. 1946, 1981. *A Grammar of Old Irish*. Dublin: Dublin Institute for Advanced Studies.

228A Computer Building
Education Technology Services
Penn State University
University Park, PA 16802
ejp10@psu.edu