

Where Mutation does not Occur—Mutation Blocking in Irish Gaelic and Evidence for DP Phases

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Abstract¹ Irish Gaelic (henceforth Irish) is well known for its series of Initial Consonant Mutations (ICM) (Hamp 1951, Massam 1983, Lieber 1987, Ní Chiosáin 1991, Pyatt 1996, Wolf 2005, Green 2006, i.a.). Most previous approaches to ICM attempt to determine the nature of the mutations—phonological, morphological, or syntactic. The goal has been to capture these mutations in a system that explains how they operate and predicts the correct outcomes in the right environments. One piece of this puzzle that has seldomly been discussed in detail concerns the environments in which mutation unexpectedly fails to occur. In this paper I argue that the behavior of mutation in Irish genitive DPs provides evidence for a DP phase leading to the conclusion that mutation is phase-bound. That is, mutation is confined within a single syntactic phase. This paper has implications not just for mutation domains in Irish but also for the syntactic structure of the DP and the properties of syntactic phase domains.

1 Introduction

Irish has a set of Initial Consonant Mutations (ICM) that are used to realize many morphosyntactic features. These mutations occur in both the verbal and nominal domains, but for space limitations this paper is only concerned with mutation in the nominal domain. Different combinations of Gender, Number, Case, and Definiteness features give rise to morphemes that trigger mutation on the word they modify (Hamp 1951, Massam 1983). For example, the mutation known as Lenition (represented orthographically as *h* after the initial consonant of a word and as an L superscript on the word that triggers it) occurs on adjectives after feminine nouns in the nominative singular (1a), but not on adjectives after nouns in the masculine nominative singular (1b)².

- (1) a. *bean*^L *bheag*
 woman^{FEM.NOM.SG} small
 ‘a small woman’
 b. *féar*^Ø *beag*
 man^{MASC.NOM.SG} small
 ‘a small man’

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²Throughout this paper I represent mutation morphemes as diacritics at the end of the words that trigger them. This notational system is used throughout the literature on Irish Mutation (Hamp 1951, Pyatt 2003, Massam 1983, i.a.) and for that reason it is adopted here. This representation is not meant to take a stance on the morphosyntactic/morphophonological nature of Irish mutation. For such analyses I refer the reader to the citations in this footnote and other references at the end of this paper.

Masculine nouns in the genitive singular trigger lenition on the following adjective (2a), but feminine nouns in the genitive singular do not (2b)³.

- (2) a. *fir^L* *bhig*
man.GEN.SG^{MASC.GEN.SG} small.GEN.SG
‘of a small man’
b. *bróig-e* *big-e*
shoe.GEN.SG-FEM.GEN.SG small.GEN.SG-FEM.GEN.SG
‘of a small shoe’

Under Minimalist (Chomsky 1995, 2000, 2001) and Distributed Morphology (DM) (Halle & Marantz 1993, Bobaljik 2017) assumptions, gender, number, and case morphemes are built up in the syntax and Vocabulary Items (VIs) that match these features are inserted into the derivation post-syntax (i.e., late insertion). For example, in (3) is a set of VIs that correspond to the nominative singular (3a & 3b) and the genitive singular (3c & 3d) for both masculine and feminine nouns⁴.

- (3) a. [MASC.NOM.SG] \longleftrightarrow \emptyset
b. [FEM.NOM.SG] \longleftrightarrow /^L/ \emptyset
c. [MASC.GEN.SG] \longleftrightarrow /^L/ \emptyset
d. [FEM.GEN.SG] \longleftrightarrow /-e/ \emptyset

With these VIs it begins to be clear how mutation arises in the DP. A morpheme whose phonological Spell Out is a mutation morpheme /^M/ causes mutation to surface on the subsequent word. Consider (4) where the feminine noun *bróg*, whose inflection for the nominative singular is the mutation morpheme /^L/, triggers Lenition on the following modifier, whereas the masculine noun *bád*, whose inflection is null, does not.

- (4) a. *bróg^L* *bheag*
shoe^{FEM.NOM.SG} small
‘a small shoe’
b. *bád⁰* *beag*
boat.MASC.NOM.SG small
‘a small boat’
c. *bád⁰* *gloin-e*
boat.MASC.NOM.SG glass-FEM.GEN.SG
‘a glass boat (a boat made of glass)’

³In Irish, mutation is usually accompanied by other stem internal changes like the palatalization of a final consonant or ablaut like in (2a) or by affixes (2b). Without taking any stance on the morphological theory that can account for this, I will mark this features wherever they occur even if that means they appear several times on a single word.

⁴These are a subset of all possible morphemes for these features. Irish has five nominal declensions each with their own set of inflectional endings, many of which are syncretic. (3) Provides the forms for the first two declensions.

⁵^M stands for any mutation, ^L for Lenition, and ^N for Eclipsis.

- d. *bróg^L* *ghloin-e*
 shoe^{FEM.NOM.SG} glass-FEM.GEN.SG
 ‘a glass boat (a boat made of glass)’

If there was nothing more to it, then it would be predicted that anytime a noun in the feminine nominative singular is followed by a subsequent word that word would surface with Lenition. While this is true for the examples thus far, in the next section I show that there is much more to the story. Crucially, one must examine the cases where mutation is expected to occur yet fails to do so and explain why mutation is blocked in that environment. The rest of this paper does just that. In the next section I look at the environments where mutation is expected to occur but does not. In section 3 I provide external evidence for two structures for the Irish genitive phrases in order to explain the differences seen in section 2. In section 4 I derive these two structures and show how this analysis explains when mutation occurs and when it does not. Finally, section 5 concludes.

2 Mutation–Where it doesn’t Occur

There are many situations in which mutation fails to occur even though one might expect it to surface. For example, as discussed, feminine nouns in the nominative singular lenite their modifying adjective (4a). However, if the noun and the adjective are placed into a copular construction with the adjective now in predicative position (5), then mutation does not occur even though the Lenition morpheme is adjacent to the adjective like with the DP example in (4a).

- (5) *tá* *an^L* *bhean^L* *clistel*chliste*
 be.PRES DEF^{FEM.NOM.SG} woman^{FEM.NOM.SG} clever
 ‘the woman is clever’

It has been argued (Duffield 1998) in what I will call the Syntactic Phrase-Based approach that the reason the adjective *cliste* does not surface with Lenition in this construction is due to the fact that the adjective and the noun *bean* are not in the same syntactic phrase (for example the PredP analysis of Irish Copular Constructions in Chung & McCloskey 1987). This implies that mutation can only occur within the same maximal projection. While this is true, it does little to explain why this should be the case. Of course one can stipulate that mutation only occurs within a syntactic phrase, but it would be better to have some sort of external motivation for such a generalization. While I ultimately argue against having mutation confined to a single maximal projection, I do not completely abandon the idea that mutation domains in Irish are determined by the syntax. The primary issue with confining mutation to a maximal projection is that there is no theory internal reason for why this should be the case. The observation might hold true, but the explanation for why continues to be lacking. I argue that independently necessary syntactic domains (phases) are the true loci of mutation in Irish. Since the phase is always a maximal projection, the generalization that mutation is confined to a maximal projection still is captured while also providing an answer for why this would be the case.

Others have argued that mutation must be confined to a phonological domain (Pyatt 2003). The proposal outlined in Pyatt 2003 says that if the mutation trigger

is of prosodic size x then the domain in which mutation can occur is of size $x+1$. So for example, the definite article is a clitic that triggers mutation. The next prosodic unit above the clitic is the phonological word. Mutation can occur between a clitic and its ‘host’ because the trigger and the target make up a prosodic constituent that is one size bigger than the clitic trigger. If the trigger is a noun (a prosodic word), then the mutation domain is confined to the phonological phrase which is a constituent one size larger than the word. And so for the example in (5), the argument is as follows: the subject *an bhean* and the copula *tá* form a phonological phrase separate from the predicate adjective *cliste*. Since the mutating morpheme and the target are in separate phonological phrases, mutation is not permitted to occur since the trigger and target are not in a prosodic constituent one size larger than the trigger. Conversely, in a DP the noun and its modifier would be in the same phonological phrase and thus mutation can occur for a phrase like *an bhean chliste* ‘the clever woman’. This analysis does seem to work for a variety of mutational contexts. The reason for this is that mutation cannot occur if the trigger and the target are not in a domain of the right prosodic size. However, evidence from Irish genitive constructions begins to raise questions about this analysis. Specifically, these constructions permit mutation in some situations but not in others. Yet, for all the situations discussed in this paper, the DPs are simple Noun-Noun genitive constructions and should therefore all be of the same prosodic size. It would be *ad hoc* to say that the same construction is of one size in some examples (when there is mutation), but it is a different size in others (when mutation is blocked). For example, consider the examples in (6).

- (6) a. *bróg^L fir*
 shoe^{FEM.NOM.SG} man.MASC.GEN.SG
 ‘a man’s shoe’
 b. *bróg^L ghloine*
 shoe^{MASC.NOM.SG} glass-FEM.GEN.SG
 ‘a glass shoe (a shoe made of glass)’

Both of these examples consist of a Noun-Noun sequence usually referred to as the construct state (Kane et al. 2016). Yet, in (6a) Lenition is blocked from occurring on the possessor *fir* and in (6b) Lenition is allowed to surface on the modifier *ghloine*. If one was to assume that mutation is confined to a phonological domain that is one size larger than the trigger, it is unclear why (6a) and (6b) should have two different phonological structures. Why should (6b) be a phonological phrase but (6a) is two phrases? By all accounts they should be considered to be the same phonological domain. While I will eventually argue that (6a) and (6b) have different syntactic structures, both phrases share the same maximal projection (a DP) which further complicates the Syntactic Phrase-Based analysis since if mutation is confined to the same maximal projection, one would also predict that mutation should behave the same way in these genitives—which they do not.

In the remainder of the paper I focus on the evidence from the genitive constructions like those in (6) and propose a new domain for mutation in Irish. I argue for a Phase-Based Domain for Mutation, in which mutation is confined to the syntactic phase. This analysis permits the generalization that mutation happens within a syntactic phrase to fall out from independently motivated syntactic principles. A Phase-Based account is also able to capture the difference between (6a) and (6b)

that poses a challenge to the Phonological Constituent Size analysis. In the next section I provide external evidence that the phrases in (6) have separate syntactic structures. This difference in syntactic structure provides an explanation for why mutation could be confined to the syntactic phase. And, with mutation confined to a phase, it is possible to do away with analyses that require domains of varying prosodic size or ones that follow from stipulations as to which syntactic phrase are considered to be a mutation domain.

3 External Evidence for Two Structures

In the next two sections I lay out two syntactic structures for Irish genitive phrases in order to set the foundation for an analysis of Irish ICM that is constrained by syntactic phase boundaries. I argue that possessive genitives in Irish are the result of a two DP Possessive Phrase (PossP)⁶ and that attributive genitives (nouns used in the genitive case to quantify or qualify the head noun with respect to size, shape, material, etc.) and inalienable possession is a single DP with no PossP. The presence of two DPs explains why in possessive genitives Irish does not permit mutation to occur from the possessum to the possessor because each DP constitutes a separate syntactic phase and thus a separate Spell Out domain which in turn is its own phonological cycle (Sande et al. 2020). Conversely, the single DP for attributive/inalienable genitives is a single phase/Spell Out domain and therefore mutation is allowed to occur. Before I provide the structures for these two types of genitive phrases, I shall provide external evidence supporting the treatment of these phrases as truly having different syntactic structures.

3.1 Distribution of the Definite Article

Irish genitive phrases are formed into a structure that is very similar to the Semitic Construct State (Ritter 1991, Kane et al. 2016). In these constructions the possessum (or attributed noun) appears in the nominative/accusative case and is followed by a possessor (or attribute) that is in the genitive case. For possessives, the definite article intervenes between the possessum and the possessor and triggers a definite reading for the whole DP (example (7a,c,g,e) below). For attributives the definite article precedes the head noun. Crucially, there can almost never be more than one definite article in these structures (there are a few exceptions when a demonstrative is present)⁷. When the genitive phrase is indefinite no article is present. Finally, the topic of interest in this paper is concerned with the patterning of mutation in the genitive phrase.

Given a pair of genitive phrases (7)–one definite and the other indefinite–if, for the definite genitive phrase, the definite article intervenes between the possessum and the possessor (7a,c), then the indefinite counterpart (7b,d) is such that mutation is block. Conversely, if the definite genitive phrase does not have an intervening article (it occurs before the two nouns) (7e,g), then the indefinite counterpart (7f,h)

⁶This two DP within a PossP structure comes from Alexiadou 2003.

⁷The more complex patterns of the surfacing of the definite article are not important to the analysis presented here. The position of the article is solely used to see where DP boundaries are in the syntax providing evidence for the structures proposed here. Similarly a noun in the genitive plural does not trigger mutation on the following modifier/genitive and therefore is also irrelevant here.

is such that mutation is permitted. It is important to note at this point that mutation can still surface for masculine nouns in the genitive singular in these constructions after the definite article regardless of the construction they are in. This is a reflex of the genitive morphology being realized from the definite article and is a completely separate phenomenon. This is also true for feminine nouns after the definite article in the nominative singular (see example (5)). Although definite genitive phrases are shown for expository purposes, the indefinite constructions are the ones of primary interest in this paper since only in those constructions can we see the mutation behavior from the first element in the genitive construction and the second one.

- (7)
- a. **Definite Masculine with Intervening Article**
bád⁰ an^L fhír
 boat^{MASC.NOM.SG} DEF^{MASC.GEN.SG} man.MASC.GEN.SG
 'the man's boat'
 - b. **Indefinite Masculine with No Mutation**
bád⁰ fir
 boat^{MASC.NOM.SG} man.MASC.GEN.SG
 'a man's boat'
 - c. **Definite Feminine with Intervening Article**
bróg^L an^L fhír
 shoe^{FEM.NOM.SG} DEF^{MASC.GEN.SG} man.MASC.GEN.SG
 'the man's shoe'
 - d. **Indefinite Feminine with Blocked Mutation**
*bróg^L fir/*fhír*
 shoe^{FEM.NOM.SG} man.MASC.GEN.SG
 'a man's shoe'
 - e. **Definite Masculine with Non-Intervening Article**
an⁰ bád⁰ ghloin-e
 DEF^{MASC.NOM.SG} boat^{MASC.NOM.SG} glass-FEM.GEN.SG
 'the glass boat (the boat made of glass)'
 - f. **Indefinite Masculine with No Mutation**
bád⁰ ghloin-e
 boat^{MASC.NOM.SG} glass-FEM.GEN.SG
 'a glass boat (a boat made of glass)'
 - g. **Definite Feminine with Non-Intervening Article and Mutation**
an^L t-súil^L ghloin-e
 DEF^{FEM.NOM.SG} eye^{FEM.NOM.SG} glass-FEM.GEN.SG
 'the glass eye (the eye made of glass)'
 - h. **Indefinite Feminine with Mutation**
súil^L ghloin-e
 eye^{FEM.NOM.SG} glass-FEM.GEN.SG
 'a glass eye (a eye made of glass)'

It becomes clear from (7) that there is a relationship between the distribution of the definite article in the definite genitive phrases and presence/absence of mutation in the indefinite phrases. For example, in examples (7a) and (7c), the definite article surfaces between the two nouns. It also happens that when these phrases are indefinite (7b & 7d) mutation is blocked from occurring (7d). Conversely, in (7e) and (7g) the definite article precedes the two nouns (and mutation can occur). When these phrases are indefinite (7f & 7h) mutation is still permitted to surface (7h). As such, one can assume that: 1) there is a different structure for the examples in (7a,c) and (7e,g) because of the placement of the definite article; and 2) mutation is

blocked when the definite article would intervene between the two nouns if the genitive phrase were definite (7b,d) but is allowed to surface when the definite article would precede both nouns (7f,h). This shows that there is a one-to-one correlation between the placement of the definite article in the definite genitive phrases and the surfacing of mutation in the indefinite ones. As is discussed in the next section, all of the examples where mutation can occur and the definite article (if present) precedes the two nouns are attributive/inalienable genitives, whereas those genitive phrases that block mutation and would have an intervening article (if present) are purely possessive genitives. These distributional facts suggest that there are truly two different structures for attributive/inalienable genitive phrases and possessive genitive phrases.

3.2 Semantic Evidence

Another piece of external evidence that suggests these two types of genitives are in fact different comes from Alexiadou's 2003 analysis of Greek. In her analysis, she argues that a major difference between alienable possession and inalienable possession/other genitives is the fact that alienable possession can almost always be semantically interpreted as 'X belongs to Y' (where X is the possessum and Y is the possessor). She shows that this semantic difference holds for Greek genitive phrases which in turn is reflected in the distribution of where the definite article can appear. Although the structures are different, this parallels the same facts in Irish. The two types of genitives have different distributions and there are significant semantic distinctions that crosscut these structural differences. Alexiadou argues that this is to be expected since difference in semantic interpretation necessitates different syntactic structures. Applying this argument to the Irish data we observe the same pattern as in Greek. Namely, attributive and inalienable genitives are incompatible with a 'X belongs to Y' interpretation but possessive genitives are (8).

- (8) a. *glac^L* *thairn-í*
handful^{FEM.NOM.SG} nail-PL
'a handful of nails/*a handful belonging to nails'
- b. *coinneal^L* *chéar-ach*
candle^{FEM.NOM.SG} wax-GEN.SG
'a wax candle/*a candle belonging to wax'
- c. *stail^L* *chapaill*
tail^{FEM.NOM.SG} horse.MASC.GEN.SG
'a horsetail/*a tail belonging to a horse⁸'

4 Two Structures

Having been presented with the conundrum of explaining why mutation can occur on attributive/inalienable genitives but not on possessive genitives, it is important to consider all possible explanations for this phenomenon. Given the arguments put forth in section §2 and the distributional evidence of the definite article (example 7) and the semantic evidence from section §3, I argue that possessive

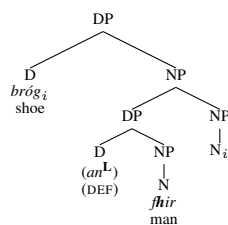
⁸The translation for 'a horse's tail (a tail belonging to a horse)' would be *stail an chapaill*

genitives and attributive/inalienable genitives are the result of two separate syntactic structures. This is not a novel idea in the possession literature. In fact there is a substantial body of literature that argues for a difference between these structures cross-linguistically (Alexiadou 2003, Alexiadou et al. 2007, a.o.). That said, this is a novel application of these structures to Irish genitive phrases.

4.1 Possession

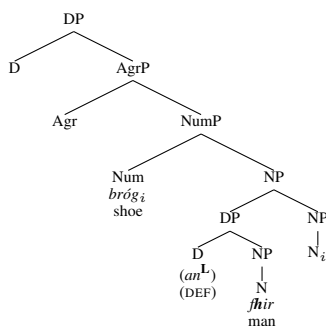
As mentioned at the beginning of this section, Irish genitives look much like the Semitic Construct State. The original analysis of this type of construction (posited for Hebrew in Ritter 1991) was widely accepted as the way to derive these constructions. In this structure the possessor is a DP in the Spec-NP position and the head noun raises from N to D (9).

(9)



Because of the presence of pronominal possessors in Irish that occur before the head noun, Duffield 1993 argues for an extended DP with both an AgrP projection and a NumP projection. In his analysis N raises to Num instead of D so that D can be filled by a pronominal if need be. This would imply the structure in (10). I assume following Duffield that this is the basic structure of the Irish DP (even without possession which in this analysis would be achieved by leaving out the possessor in Spec-NP).

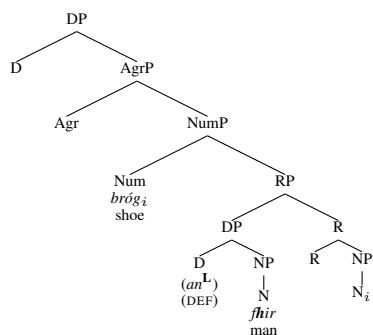
(10)



Ultimately Kane et al. 2016 provides further evidence that there is yet another projection within the Irish DP that accounts for the distribution of demonstratives in Irish genitives. They call this projection the Relation Phrase where different heads of this projection determine whether the genitive DP construction is possessive or attributive (11)⁹.

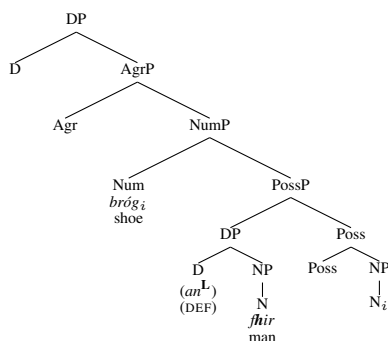
⁹I have adapted this tree structure for ease of integration into this paper. This is not the exact version that appears in Kane et al. 2016. I refer the interested reader to that paper for further investigation.

(11)



Following Alexiadou 2003 and Alexiadou et al. 2007 (i.a.), I propose one last modification to the tree in (11) in order to explain possessive genitives in Irish. Namely, I contend that Kane et al.'s RP is actually a PossP and this only appears in possessive genitives. I argue that attributives/inalienable possession are a separate structure entirely. I propose the following structure for possessive genitives in Irish (12).

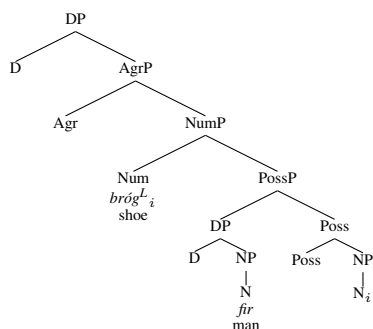
(12)



Although it is sometimes controversial as to the status of the DP as a phase (Citko 2014), there have been proposals in the literature that suggest that the DP is a phase both syntactically (Simpson & Syed 2017) and phonologically—i.e. its own Spell Out domain (Sande et al. 2020). It is not the objective of this paper to weigh the arguments for and against this position. That said, I do assume that the DP is a phase (at least in Irish if not universally). Per Minimalist Syntax (Chomsky 1995, 2000, 2001), each syntactic phase constitutes a piece of the syntactic derivation that is sent to the PF and LF interfaces in a cyclic manner. Each phase is spelled out separately and is ‘frozen’ at this point in the derivation. The Phase Impenetrability Constraint, PIC, (Chomsky 2001) requires that after the phase is spelled out it is no longer accessible to further syntactic operations.

The phonological theory of Cophologies by Phase (Sande et al. 2020) treats each syntactic phase as a phonological cycle. I argue that at the end of each phonological cycle, the phonological grammar deletes all remaining unrealized autosegments (the mutation morphemes). In this way, if a mutation morpheme and its target are in separate syntactic phases (and thus different phonological cycles), then mutation is blocked because phonology independently has removed the mutation morpheme in one cycle before it is adjacent to its target in the next cycle. Consider the example in (13).

(13)



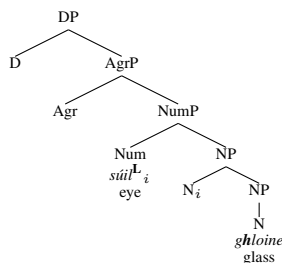
In (12) we see the syntactic tree for the phrase *bróg fir* ‘a man’s shoe’. As can be seen, *fir* and *bróg^L* are in separate DPs and therefore separate phases. As such, they are spelled out separately from one another which leads to the mutation morpheme ^L being deleted since it has nothing adjacent to it in its phase to dock onto. And so, mutation is blocked from occurring.

4.2 Attributives and Inalienables

So far I have shown that the structure for possessive genitives in Irish has two DPs in relation via a PossP. The phase status of the DP ensures that if a mutation morpheme is in a different phase from its target, then the PIC blocks mutation from surfacing. This analysis would predict that in all possessive genitive constructions in Irish mutation should be blocked. This is exactly what is observed in the empirical data. But as we have seen, there are plenty of attributive/inalienable genitives that do show mutation. And in addition they have a different distribution for the definite article as well as having different semantics. This leads to the conclusion that these attributive and inalienable genitives are a different syntactic structure from those given in the PossP construction in (12) and (13).

Alexiadou 2003 provides an in depth analysis of Greek inalienable possession in which she shows that alienable possession and inalienable possession have different syntactic structures. Inalienable possession is formed by the head noun taking an NP complement. In Alexiadou et al. 2007 this structure is extended to other types of nominal modifiers as well, including attributives. They argue for a universal DP structure that follows the same order of projections I have laid out in (12) and (13). I will adopt their analysis and assume attributive/inalienable genitives in Irish are formed via an NP complement to the head noun as in (14)¹⁰.

(14)



¹⁰The N head still raises to Num in these constructions as it is assumed to always do this (Duffield 1993).

In (14) it is clear that the two nouns are in the same DP, thus the same phase, which is the same Spell Out domain. During phonology the mutation morpheme and the target are linearly adjacent in the same phase. The proposal argued for in this paper would predict that mutation should be permitted to surface in this situation. This is the observed result. In this way, the proposal laid out in this section is able to correctly predict the surfacing of mutation in Irish genitive DPs if it is assumed that mutation cannot cross a phase boundary and that DP is a phase.

Finally, it should also be pointed out that the structures proposed here also account for the distribution of the definite article in these genitive phrases. Since the definite article can only occur between the two nouns in a possessive construction, it is expected that some D head must be present between the two nouns. The PossP construction requires this. Furthermore, the lack of a D head between the nouns in the attributive/inalienable structure explains why the article can never occur in this position. These two structures for genitive DPs in Irish account for both the distribution of mutation and that of the definite article. This is a desirable result.

5 Conclusion

In this paper I have put forth a novel analysis of mutation domains in Irish Gaelic. Unlike previous proposals that relied on syntactic phrase boundaries or constituents of varying prosodic size, I argue that Irish mutation is confined to syntactic phases. Using evidence from Irish genitive constructions, I show that when a mutation morpheme is in a separate phase from the target of mutation, mutation is blocked. If the mutation morpheme and the target are in the same phase, mutation is permitted to occur. I propose two structures for the Irish DP that conform to structures argued for independently elsewhere in the literature. The proposal put forth here relies on independently necessary syntactic domains. This stands out from other proposals in the literature in that there is no language specific rule for what counts as a domain and what does not. The proposal here predicts that if this were to be extended to other languages with morphological mutation then it would be expected to also be confined to a syntactic phase. Lastly, drawing from independent semantic evidence, I show that there is a semantic reason to treat the two types of genitives discussed in this paper as completely different structures. Given that this new proposal can account for the syntactic distribution of the definite article, explain and predict where mutation should and should not occur, and is consistent with previous semantic analyses that separate different types of genitive constructions, I believe that this new way of looking at mutation domains in Irish is a fruitful line of research for future inquiry.¹¹

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¹¹I have obviously not discussed how case is assigned in these constructions. While this is an interesting question, it is not the primary concern of this paper and so it has been left out. One simple explanation would be to have genitive case assigned by Poss via a Spec-Head relation for possessive genitives and genitive case to be licensed by N as its complement for the attributives. However, I do not foresee any reason why other theories of case assignment would be an issue for this analysis and as such I believe this analysis should be able to work under any Case Theory one would like to pursue.

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