Summary: sources of mutation in Irish clauses

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Broadly speaking, there appear to be two main sources of mutation in Irish clauses:

1. **Mutation-inducing particles:** Some pre-verbal particles are associated with a particular mutation effect on the initial segment of the word that immediately follows.
2. **Mutation related to tense:** Historic tenses tend to be associated with lenition on the verb (in finite clauses) or the noun/adjective that immediately follows the copula (in copular clauses).

1 Mutation-inducing particles

1.1 Description

The mutation-inducing pre-verbal particles are assumed to be located on the C-head. They can be subdivided according to whether they take the independent or dependent form of the verb/copula; and those taking the dependent form can be further subdivided according to whether they take the *-r* morpheme in non-historic copular clauses. These divisions are summarised in the following table (where ***L*** indicates a lenition trigger and ***E*** indicates an eclipsis trigger).

Table 1: Classification of C-head particles in Irish

Verb form taken	Independent	Dependent	
***-r* with non-historic copula?**		No	Yes
	*a**L*** *má**L***	*ní**L*** *an**E*** *nach**E*** *dá**E***	*a**E*** *go**E*** *cá**E***

The independent form of the verb/copula is also the form that is used in sentences that do not contain a pre-verbal particle in the C-head. The particles that are classified as taking the dependent form also share the following properties:

- Associated with the absence of an overt copular particle (*ba*/*is*) in copular clauses
- Followed by the *-r* morpheme in some contexts (past indicative finite clauses and historic copular clauses; plus non-historic copular clauses for a subset of particles)

1.2 Analysis

My proposed analysis for these particles is that they carry a set of mutation-inducing phonological features as part of their phonological representation. These floating features latch onto the initial consonant of a following word, producing a mutated consonant. One important consequence of this is that the triggering of mutation does not depend on the category of the following word – all that is required is linear adjacency. Thus, although mutation after these particles usually appears on the verb, we also observe cases such as (1) and (2) below, where mutation is triggered on the historic particle *do* and the copular particle *ba* respectively (examples from Christian Brothers (1960, p.176) and Gaois.ie (2023)).

(1) a. *ní fhéadfainn hata a* ***dh****'oirfeadh dom a fháil ...*
NEG can.COND.1.SG hat *prt* suit.COND to.me PRT get ...
'I could not get a hat that suited me...'

b. *go háirithe má* ***dh****'éiríonn le hiarratas na tíre seo ...*
PRT especially if succeed.PRES with attempt the country this
'Especially if this country's attempt succeeds...'

(2) a. *rachainn dá* ***mb****' eol dom an bealach*
I.would.go if COP known to.me the way
'I would go if I knew the way.'

b. *dúirt sí go* ***mb****a mhór an ónóir di í*
said she COMP COP great the honour to.her it
'She said it was a great honour to her.'

1.3 Outstanding questions and issues

As discussed above, my analysis of mutation-inducing particles assumes that the mutation triggering process is blind to the properties of the target word – all that is required for mutation to occur is that the word is linearly adjacent to the trigger. However, there are some violations to this generalisation:

- Although examples such as (1) have been observed, in the vast majority of cases the historic particle *do* remains unmutated after pre-verbal particles. We must therefore assume that *do* is somehow intrinsically resistant to mutation.

- The past indicative impersonal form of the verb is never mutated, even when preceded by a mutation-inducing particle. Again, we would need to assume that this form is intrinsically resistant to mutation.

- Mutation is never observed following these particles in non-historic copular clauses. This is unsurprising in independent contexts where the copular particle *is* appears overtly, directly after the mutation-inducing particle. However, in dependent contexts there is no overt copula, yet the word directly following the mutation-inducing particle is never mutated (as in (3) below, from Christian Brothers 1960, p.153).

(3) a. *ní* ***c****apall/***ch****a****pall óg é*
NEG horse young him
'He is not a young horse'

b. *an* ***f****íor*/****bhf****íor* **sin**
Q true that
'Is that true?'

This last example is the more problematic, because it cannot be accounted for by assuming the target word is intrinsically resistant to mutation – these words regularly undergo mutation in other contexts. As far as I can see, we have three options for how to analyse these cases:

- Option 1: Assume that there are two forms of each of the particles *ní*, *an*, *nach* and *dá*, one of which contains the mutation-inducing features and one of which does not. The non-mutating form would then be selected in non-historic copular clauses, while the mutating form would be selected elsewhere. Alternatively, these non-mutating forms could be portmanteau morphemes that simultaneously realise the C-head and the COP-head (recall that the COP-head is not realised overtly in these contexts).

- Option 2: Assume that there is some blocking mechanism that prevents mutation from being realised. For example, although the copular particle does not appear overtly in these contexts, it could be that the COP-head contains some phonological material that absorbs the mutation-inducing features, preventing them from latching onto the initial consonant of the following word.

- Option 3: The non-mutation in these contexts could be related to locality conditions. The putative mutation target could be in some sense "too far" from the mutation-triggering particle to be affected by the mutation-inducing features.

Another potential problem with my proposed analysis relates to coronal blocking. Under my analysis we would expect to observe coronal blocking effects in any context where the mutation-inducing features are inserted alongside a trigger word that ends in a coronal. Therefore, we would expect to see coronal blocking following the interrogative particle *an****E***. However, coronal blocking is not usually observed in this context. This suggests that either my analysis (of either coronal blocking or mutation-triggering particles) is incorrect, or else there are additional factors to be considered in this case.

2 Mutation related to tense

2.1 Description

Historic tenses tend to be associated with lenition in a number of contexts. The relevant factors for determining whether lenition occurs include the clause type (finite verbal clause or copular clause) and whether the verb/copula is in its dependent or independent form. The following table summarises the patterns of lenition under these two dimensions.

In finite verbal clauses, the lenition target is the verb itself, while in copular clauses the lenition target is the noun or adjective that immediately follows the copula. In dependent finite verb contexts, historic lenition is only found in cases where a separate distinct dependent form of the verb does not exist.

Table 2: Summary of historic lenition patterns

	Independent	**Dependent**
Finite verb	All historic tenses*	Past indicative only*
Copula	All historic tenses	All historic tenses

*But not on the impersonal form of the verb

2.2 Analysis

I propose that at least some instances of historic lenition are examples of "agreement type" mutation. In this type of mutation, the target word enters into an agreement relation with the upper tense head (i.e. T1-head that was argued for by McCloskey (2017) and assumed by Ostrove (2018)). If the T1-head is marked for historic tense, then it triggers the appearance of an agreement prefix on the target word – the verb in finite verbal clauses and the noun/adjective immediately following the copula in copular clauses. This prefix is assumed to carry the mutation-inducing features.

The analysis proposed here requires that all Irish lexical word categories (verbs, nouns and adjectives) can be inflected to reflect tense agreement. Exceptional non-mutation, for example of forms of the verb *abair* 'say' or impersonal past indicative verbal forms, could be accounted for by supposing that such words are marked as unable to inflect in this way.

Under this analysis, we can account for the fact that the pre-vocalic forms *d'* and *b'* are selected based on the post-mutation identity of the initial consonant of the target word (i.e. they appear before *f*-initial words in addition to vowel-initial words, because *f* deletes under lenition). If the mutation-inducing particles are fundamentally associated with the target word, then we would expect mutation to have taken place before these forms are selected. It also explains why lenition is observed in historic tense verbs even in the absence of an overt mutation trigger.

2.3 Outstanding questions and issues

The agreement analysis outlined above works well in independent environments. However, there is an additional complication in dependent environments, where the morpheme *-r* appears in the T1-head in almost precisely the environments where lenition is observed on the following word. It is therefore important to also consider the possibility that *-r* might be the mutation trigger in these environments (similar to the mutation-inducing particles discussed in §1).

One argument in favour of this analysis comes from sentences like (4) below, where we find two instances of lenition in a historic copular clause: one on the adjective *fearr* and one on the copular *-b* immediately following the *-r* morpheme.

(4) *a-r-**bh*** ***fh**earr leat* *ceol*
Q-r-COP.HIST better with.you music
'Would you prefer music?' / 'Did you prefer music?'

Here I assume that the mutation on *fearr* is as described above (i.e. it is the result of an agreement relation between the adjective and the historic T1-head). However, the mutation

of *-b* is more difficult to analyse in this way. I assume that this element is the dependent form of the copular particle (which only appears pre-vocalically). I have proposed that historic tense agreement targets the lexical categories of nouns, adjectives and verbs, so it would be surprising to observe the same agreement effect on the copular particle. Moreover, if the proposed agreement relation *were* to target the COP-head, we would expect to also find it on the copular particle *ba* in independent contexts, contrary to what is observed. Instead, it seems that a better analysis in this case would be to assume that the mutation-inducing features are attached to the morpheme *-r*, and that they latch onto the following consonant to produce the mutated form.

However, there is one further complication: the existence of *-r* forms that do not trigger mutation. The particles *a*, *go* and *cá* are followed by *-r* in non-historic copular clauses, but there is no associated lenition on the following word in these contexts. This leaves us with two possibilities:

- Option 1: There are two separate forms of the morpheme *-r*. One of these, *-r**L***, includes mutation-inducing features in its phonological representation, and is inserted in historic contexts. The other, *-r*, does not carry mutation-inducing features, and is inserted in non-historic contexts alongside the specific set of particles listed above.

- Option 2: The same *-r* morpheme appears in all relevant contexts, and the lenition of the following word is due to agreement with the T1-head in historic contexts. In this scenario, we would require both the copular particle and the following noun/adjective to agree with T1, but the former to only exhibit agreement morphology in dependent contexts.

By linking historic lenition to the T1-head, both options can explain why dependent verbal forms are excluded from historic tense lenition. These forms do not co-occur with the *-r* morpheme, so their nonlenition under Option 1 is accounted for trivially. Furthermore, Ostrove (2018) argues that dependent verbal forms are portmanteaux that simultaneously expone T1 and the verbal root. If we assume this is the case, then it is clear that such forms would not be able to agree with T1 (Option 2), since they already expone that head directly. So the two options cannot be distinguished on this basis.

Although neither alternative is particularly elegant, I find Option 1 more convincing. In Option 1, the insertion of *-r* is more explicitly linked to the proposed function of the T1-head (namely, the expression of broad tense distinctions), because a separate form of this morpheme (*-r**L***) is inserted in historic contexts.

Moreover, Option 1 manages to capture the fact that, in historic dependent contexts at least, lenition is observed if and only if the *-r* morpheme is present. For example, in dependent finite verb clauses, both *-r* and lenition are only observed in the past indicative, but not in other historic tenses (see below). In Option 2, this restriction to the past indicative would have to be stipulated separately in both cases, while in Option 1 it would only need to be stated once.

A major drawback of Option 1 is that it postulates two separate origins for lenition in historic tenses (the historic *-r**L*** morpheme and an agreememt prefix). In the majority of cases, the effects of these two mutation triggers would be identical, so including both in the

analysis seems redundant. However, the existence of examples like (4) implies that the two mutation types can appear alongside each other in the same clause.

A further outstanding question, touched on earlier, is why the *-r* morpheme (and associated lenition effect) only appears in the past indicative in dependent contexts, rather than in all non-historic environments. Recall that the T1-head is supposed to only be able to express broad historic vs. non-historic distinctions. It is therefore surprising that it seems to be able to pick out specifically the past indicative in this context, rather than grouping the historic tenses together as it does in all other cases. In addition, we need an explanation for why the agreement with the [+historic] feature T1-head does not seem to apply in this context.

One possibility is that for some reason, in dependent contexts the T1-head is only marked as [+historic] in the past indicative, but not in all the other tenses traditionally classed as "historic". However, the usual historic/non-historic distinction is seen in dependent copular clauses, because the copula is incapable of making finer distinctions than this.

A final problem is that the analysis proposed here lacks a clear mechanism by which mutation target words are made to agree with the [+historic] feature on the T1-head. The idea that a verb might enter into an agreement relation with the T1-head is unsurprising, but the requirement that nouns and adjectives be marked for historic tense is less expected. To obtain a fuller picture of what is happening in these cases, I would need to get a better understanding of the syntactic structure of copular clauses.

3 Summary

To summarise, I propose that all instances of mutation in Irish clauses originate from one of the following sources:

- C-head particles that have mutation-inducing floating features as part of their phonological representation
- The historic *-r**L*** morpheme, which appears in the T1-head in dependent contexts
- Prefixation of lenition-inducing floating features as an expression of agreement with a [+historic] feature in the T1-head

However, there are still a number of outstanding questions and issues, particularly relating to historic tense lenition.

References

Christian Brothers. (1960). *Graiméar Gaeilge na mBráithre Críostaí.* Baile Átha Cliath: MH Mac an Ghoill agus a Mhac.

Gaois.ie. (2023). *Corpus of contemporary Irish.* Retrieved from `https://www.gaois.ie/en/corpora/monolingual/` (Accessed 19-November-2023)

McCloskey, J. (2017). Ellipsis, polarity, and the cartography of verb-initial orders in Irish. In E. Aboh, E. Haeberli, G. Puskás, & M. Schönenberger (Eds.), *Elements of comparative syntax: Theory and description* (Vol. 127, p. 99-151). Boston and Berlin: de Gruyter Mouton.

Ostrove, J. (2018). Stretching, spanning, and linear adjacency in vocabulary insertion. *Nat Lang Linguistic Theory*, *36*, 1263-1289. doi: https://doi.org/10.1007/s11049-018-9399-y