Celtic initial consonant mutations - nghath and bhfuil?

Author: Kevin M Conroy

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Celtic initial consonant mutations – nghath and bhful'?

by

Kevin M. Conroy

submitted in partial fulfillment of the requirements
the degree of

B.A.

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2008
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Abstract

The Insular Celtic languages, such as Irish and Welsh, distinctively feature a morphophonemic process known as initial consonant mutation. Essentially the initial sound of a word changes due to certain grammatical contexts. Thus the word for ‘car’ may appear as carr, charr and gcarr in Irish and as car, gar, char and nghar in Welsh. Originally these mutations result from assimilatory phonological processes which have become grammaticalized and can convey morphological, semantic and syntactic information. This paper looks at the primary mutations in Irish and Welsh, showing the phonological changes involved and exemplifying their basic triggers with forms from the modern languages. Then it explores various topics related to initial consonant mutations including their historical development and impact on the grammatical structure of the Celtic languages. This examination helps to clarify the existence and operations of the initial mutations and displays how small sound changes can have a profound impact upon a language over time.
Boston College

Undergraduate Honors Program
Linguistics

Celtic initial consonant mutations – nghach and bhfuil?

by

Kevin M. Conroy

Advisor: Prof. M. J. Connolly
April 2008
Acknowledgements

I would like to thank my advisor Professor M. J. Connolly for all of his help and advice during our weekly meetings. I would not have been able to complete my thesis without his guidance. Indeed, I would not have even thought of this thesis topic had I not taken his Old Irish class and learned how the mutations could be explained by looking at “underlying forms”. I am also grateful to Professors Margaret Thomas and Claire Foley for reading through sections and providing linguistic advice.

I am thankful as well to my roommates who have put up with my stacks of Celtic grammar books and my mutterings in Irish and Welsh. Additionally, I am must thank all of my friends who have listened to me rant in and about Celtic languages and I am especially appreciative of those wonderful ones who have graciously tried to read some of my thesis.

Finally, many thanks go to my family for putting up with and supporting (and loving) my strange interests throughout my life and for at least sometimes listening to me talk about Celtic languages and linguistics.
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I. INTRODUCTION

The Insular Celtic languages, such as Irish, Scottish Gaelic, Welsh and Breton, notoriously feature a grammatical process known as initial consonant mutation. Basically this involves a change of the first sound of a word in certain grammatical contexts. Initial mutations along with: verb-subject-object (VSO) word order, inflected pronouns and autonomous verbs, among other features, cause the Celtic languages to stand out against the rest of the members the Indo-European language family.

In this paper, I introduce and exemplify the initial consonant mutations in Modern Irish and Modern Welsh. This paper also provides some considerations about how they came about and how they are used. Additionally, it shows briefly the relationship among the Celtic languages, that is between the P-Celtic and Q-Celtic branches. I then look at the two main mutations in Irish (lenition and nasalization), showing the phonological changes involved and illustrating the basic triggers with examples from Modern Irish. Following this, I do the same for the three primary mutations of Modern Welsh (soft mutation, spirant mutation and nasal mutation).

After covering the basic phenomena, the main section of the paper presents a few selected in which “topics” related to these mutations and explores them more deeply: an additional mutation known as gemination; an occurrence of lenition in Breton; the role which analogical levelling plays in the development of the mutation systems; the so-called “direct object mutation” in Welsh; a more detailed exploration of nasalization (including a phonological innovation in Scottish Gaelic); the information that Latin loan words in Old Irish can shed upon the history of lenition in both Goidelic and Brythonic; the phenomenon of prefixing /t/ to /s/; circumstances which block lenition from occurring. All of these focus mainly on the historical development of the mutations and on “problems” in explaining their occurrences. Understanding the underlying triggers and seeing how they operate word-internally as well make initial consonant mutations seem less exotic and allows one to see the similarities that the Celtic languages have with other Indo-European languages.

Appendices at the end exemplify the mutations of Modern Irish and Welsh with examples to show all of the sounds changed and not changed by these processes. After these, I exemplify which
forms of the copula ‘to be’ in Old Irish and Middle Welsh trigger lenition, provide notes on the way in which I transcribe the examples, show the effect of the fixed and moveable versions of the perfective augment ro in Old Irish, and display the Ogham alphabet.

The synchronic and diachronic views of the Celtic consonant mutations show how an originally phonological process developed into a morphophonemic and even syntactic phenomenon. Examining the historical underlying forms especially gives insight into these mutations which seem “puzzling” when viewed on the surface. Additionally, initial consonant mutations demonstrate how a language can radically change over time. Assimilation commonly occurs in language, but in Celtic languages the assimilations became grammaticalized and play an essential role in their grammars.
II. MUTATIONS AND THE CELTIC LANGUAGES

So-called initial consonant mutations serve as a primary distinguishing characteristic of the Insular Celtic language family. These set sound changes occur at the beginning of words due to historical conditioning factors which no longer exist, but whose effects (i.e. the mutations) remain. For example, in the Irish phrase *i gCarna* [ə gəɾnə]1 ‘in Carna’, an /n/ that was historically present in the word *i* [ə] ‘in’ influenced the consonant /k/ to become voiced /g/:

/in karna/ → /iŋ kk/ → /i ŋ̣ k̑ k̑/ → /i ŋ̣ g̣g̣/ → /i ŋ̣ g̣/ → /o ŋ̣ g̣/.  

At later stages, therefore, the nasal trigger is no longer visible, but nevertheless its effect remains. Phonemic contexts no longer prompts the sound changes, but rather morphosyntactic features do. Linguists refer to this phenomenon as GRAMMATICALIZATION3.

A process called ANALOGICAL LEVELLING in Celtic can also trigger mutation. For instance, in Old Irish the negative particle *ní* does not generally cause mutation4, but does cause the mutation known as lenition (/kʲ/ → /xʲ/, [c] → [ç] here) when it incorporates a (null on the surface) neuter object pronoun—compare:

*ní céil*  
[n̺iː ciːl]  
‘he will not conceal’

*ní chèil*  
[n̺iː çɛːl]  
‘he will not conceal it’

Whereas in Modern Irish *ní* lenites by rule (and infixed pronouns no longer feature in the language)—

*ní cheilfidh sé*  
[n̺iː çɛḷfiːð ʃeː]  
‘he will not conceal’

Such cases lack historical justification. See section VII for an expanded treatment of analogical levelling.

To go deeper, all six modern Celtic languages—the Goidelic (i.e. Gaelic) languages (Irish, Scottish Gaelic and Manx) and the Brythonic (or Brittonic, British) languages (Welsh, Breton and Cornish)—have initial consonant mutations. These mutations vary in their realizations and in the contexts which trigger them, but nonetheless they share many similarities from having

---

1 velarization (ˠ) will only be marked when the distinction between velar and neutral is important; except in the case of the sonorants, see Appendix vi.

2 see section IX.a.

3 GRAMMATICALIZATION- “generally regarded as a process by which linguistic elements (lexical, pragmatic, and sometimes even phonetic items) change into constituents of grammar, or by which grammatical items become more grammatical in time…it includes the functionalization/grammaticalization of phonological…features such as palatalization and initial mutations to distinguish different cases; number and gender in Irish…” (Brown p.129).

4 in traditional Old Irish grammar schemes such as Thurneysen’s *ní* causes the mutation known as GEMINATION, the doubling of the initial consonant (GOI §240-243). This was rarely shown in even Old Irish and can be ignored for the moment, see section V.
originally occurred in similar phonetic contexts. The word ‘cat’, whose Common Celtic form /*katt-/ has the underlying forms /kat/ in modern Goidelic languages and /kaθ/ in modern Brythonic languages, undergoes the so-called LENITION mutation in all of the Celtic languages after the word ‘his’:

<table>
<thead>
<tr>
<th>Language</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish:</td>
<td>a chat</td>
<td>[ə xʊt] ‘his cat’</td>
</tr>
<tr>
<td>Scottish Gaelic:</td>
<td>a chat</td>
<td>[ə xʰət]</td>
</tr>
<tr>
<td>Manx:</td>
<td>e chayt</td>
<td>[ɛ xət]</td>
</tr>
<tr>
<td>Welsh:</td>
<td>ei gath (e)</td>
<td>[i: gaθ (e)]</td>
</tr>
<tr>
<td>Breton:</td>
<td>e gazh</td>
<td>[ɛ gaθ]</td>
</tr>
<tr>
<td>Cornish:</td>
<td>y gath</td>
<td>[i gaθ]</td>
</tr>
</tbody>
</table>

In each case the original /k/ phoneme, after the morpheme ‘his’ changes to either /x/ in the case of the Goidelic languages or to /g/ in the case of the Brythonic languages.

Celtic languages were once widely spoken across Europe and into Asia minor. They compromise a sub-branch of the larger Indo-European language family. Continental Celtic languages, such as Gaulish, Leptonic, Celtiberian and Galatian, became extinct in the first half of the first millennium A.D. Only in Britain and Ireland did the Celtic languages survive; thus they are called Insular Celtic languages. This language family further divides into Goidelic and Brythonic, also referred to as Q-Celtic and P-Celtic respectively. The Goidelic languages include Irish (Gaeilge), Scottish Gaelic (Gàidhlig) and Manx (Gaelg), along with their common Old Irish (Goídelc) ancestor. Welsh (Cymraeg), Cornish (Kernewek / Kernowek) and Breton (Brezhoneg) make up the Brythonic family.

The terms Q- and P-Celtic derive from the treatment of the Proto-Indo-European /*kʷ*/ which distinguishes between the two branches early in their split. In Goidelic this phoneme remained /*kʷ*/ but later lost its labial quality and eventually became /k/, while Brythonic kept the labial
quality of the consonant, but lost the velar place of articulation, resulting in /p/ (which had otherwise disappeared in all Celtic languages).

5

Ogham Irish  MAQQI [makʷi] ‘son GEN’
→ Old Irish  maicc /meicc [mac] / [mʲec]
→ Mod. Irish  mic [mʲic]

Old Welsh  map [map] ‘son’
→ Mod. Welsh  mab [ma:b]

Likewise, initially, Old Irish cenn [cɛn̪ˠ] ‘head’ and Middle Welsh pen [pen] ‘head’.

This study takes Irish and Welsh as exemplars of these two groups of Insular Celtic languages. Manx and Cornish mutational systems have decayed by extinction and later revival; Scottish Gaelic developed mutations beyond the core Goidelic system and these are subject to great dialectal diversity; French has had an extensive influence upon Breton. While all of these are fascinating in their own rights, this examination of Celtic consonant mutation concentrates on Irish and Welsh. Irish and Welsh of all the Celtic languages enjoy the most extensive attention in scholarship. Having remained closest to their earlier attested stages, they are seen as most representative of their respective Goidelic and Brythonic groups. Additionally, they are the Celtic tongues with which I am the most familiar.

5 Interesting enough, all Celtic languages lost Proto-Indo-European *p. Hence Irish athair (Old Irish [aθəɾʲ], Modern Irish [a(haːɾʲ]) ‘father’, Latin pater, Greek πατήρ, Sanskrit pītār- all of which descend from Proto-Indo-European *pʰaːt-. Irish words containing a /p/ are often loan words, such as peann [pʲɑːn̪ˠ] ‘pen’ from Latin penna ‘feather, wing’. Compare this with the native Irish result of the PIE root *p-e-t- ‘fly’ (the same root which yielded Latin penna; čán [cən̪ˠ] ‘bird’. In Brythonic, this root produces cdn [cdn] ‘bird’ in Welsh and penna was borrowed into Welsh as pin [pin] ‘pen.’ These Celtic forms of ‘bird’ come from the root *etnos < *pet-no-s (McCone 1996, p. 152). Earlier Irish loan words failed to accept this voiceless labial sound - hence Cásic [kuːc] ‘Easter’ from Latin Pascha. In a like manner, Welsh readily accepted /p/ in loans – Pasg [paːg] ‘Easter’. See section X on loan words in Old Irish. In later Irish /p/ was fully assimilated into the Irish sound inventory and is used in creating new native lexical items such as paor [pʷiːɾˠ] ‘laughingstock, grudge’. Additionally, /p/ in Irish arises from the de-voicing of /b/ (i.e. scuabfaidh [skuːpˠ] ‘will sweep’) and other combinations (i.e. timechall → timpeall [tʲimpeːlˠ] → [tʲi:mpˠ̪] ‘around’).

6 Brythonic languages lost any distinction between cases before the language was recorded. However one can observe remnants in prepositional phrases such as the Welsh erbyn [ɛrbɪn] ‘against’ of which the element –byn derives the dative case (and soft mutation) of pen [pen] ‘head’. This parallels the Old Irish ar-chiunn [aɾʲciːn̪ˠ] ‘before, facing’; ciunn [ciːn̪ˠ] (modern ciom [ciːn̪ˠ]) represents the dative case of cenn [cen̪ˠ] ‘head’ (L&P §272). Welsh pen and Old Irish cenn develop from the Proto-Celtic NOM/ACC *k enn. In Welsh, the Primitive British dative ending –i < -ō caused the umlaut of /ɛ/ to /ɨ/ (i/ Mod. Welsh) through /ɛ/ (L&P §181.6). The Irish dative derives from *kʷennō > *kʷeːn̪ˠ (reconstructions adapted from Stifter, p. 46).
GENERAL ACCOUNT OF MUTATIONS IN IRISH AND WELSH:

III. IRISH

Irish has two main mutations: séimhiú [ʃe:vʰuː] (lenition, aspiration) and urú [urʰuː] (eclipsis, nasalization). Up through the Primitive Irish period phonetic conditions, such as the preceding word ending in a nasal or vowel, triggered the mutations. For example, under the influence of the final vowel of the preceding definite article the initial consonant of *MAQ(Q)I/makʷi/, the genitive of *MAQ(Q)AS [makʷas] ‘son’, would undergo LEN (i.e. séimhiú), changing /m/ to [μ]:

/*sindí makʷi/ → [*sindiː μakʷil] ‘of the son’

However, as mentioned, at later stages of the language the phonetic trigger, in this case the final /i/ of /sindi/, disappeared and morphophonemic triggers became responsible for the alteration of /m/ to [μ] instead. Thus, in Old Irish ‘of the son’ was in maicc [mɪɾˠμac], whose séimhiú originated from the now-lost vowel, but the trigger responsible for mutation had undergone “reinterpretation.” The fact that maicc follows the genitive singular masculine definite article now triggers LEN, traditionally notated in Irish grammars with a superscripted L—í in \(^1\). This constitutes an example of the GRAMMATICALIZATION mentioned earlier.

Here follows a table representative, but not exhaustive, of common morphemes which trigger séimhiú in Old and Modern Irish:

\(^1\) likewise a superscripted N for urú.
<table>
<thead>
<tr>
<th>Mutational context¹</th>
<th>Modern Irish</th>
<th>Old Irish</th>
<th>English gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some prepositions:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>do ‘to, for’</td>
<td>do bhean [gə v̠ːn̠ˠə]</td>
<td>do ben [do v̠ːn̠ˠə]</td>
<td>‘to/for a woman’</td>
</tr>
<tr>
<td>possessive pronouns:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mo ‘my’</td>
<td>mo theach [mə h̠ːn̠ˠə]</td>
<td>mo theach [mo θ̠ːn̠ˠə]</td>
<td>‘my house’</td>
</tr>
<tr>
<td>do ‘thy’</td>
<td>do mhaic [do w̠ːk]</td>
<td>do macc [do m̠ːk]</td>
<td>‘your son’</td>
</tr>
<tr>
<td>a ‘his’</td>
<td>a chaoirigh [a x̠ːɾʲiː]</td>
<td>a chaeraig [a x̠ːɾʲiːɾˠ]</td>
<td>‘his sheep (PL)’</td>
</tr>
<tr>
<td>some relative clauses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a ghlanann(s) tú</td>
<td>[a ɣ̠ːlˠaːn̠ˠən̠ˠ(s) tuː]</td>
<td>no-glanai [n̠ʲoˈɣ̠ːl̠ˠaɪ]</td>
<td>‘that thou cleanest’</td>
</tr>
<tr>
<td>“dative” case:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>don mhnaoi bheag</td>
<td>[gə n̠ˠən̠ˠβɾʲog]</td>
<td>don mnaí bicc [də n̠ˠən̠ˠβʲɪɟ]</td>
<td>‘for the small woman’</td>
</tr>
<tr>
<td>Verbs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>past tense</td>
<td>ghoid [ɣ̠ːd̠ʲ]³</td>
<td>(gatais [gadaːʃ])</td>
<td>‘stole’</td>
</tr>
<tr>
<td>conditional tense</td>
<td>ghoidfadh [ɣ̠ːd̠ʲn̠ˠə]</td>
<td>(roγ̠ːd̠ˠad̠)</td>
<td>‘would steal’</td>
</tr>
<tr>
<td>imperfect tense</td>
<td>ghoidcadh [ɣ̠ːd̠ʲd̠ʲə]</td>
<td>(roγ̠ːd̠ʲβʲɪɟ)</td>
<td>‘used to steal’</td>
</tr>
<tr>
<td>negative particles</td>
<td>ní,</td>
<td>(nígēta [n̠ʲiːγ̠ːtəd̠ʲaː])⁶</td>
<td>‘will not steal’</td>
</tr>
<tr>
<td>níor (w/ simple past only)</td>
<td>níor ghoid [n̠ʲɪ̯ːrˠən̠ˠd̠ʲ]</td>
<td>(nirγ̠ːd̠ˠad̠)</td>
<td>‘did not steal’</td>
</tr>
<tr>
<td>past tense copula:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ba, ní ba (=níor), ar, nár</td>
<td>ba dhraoi ē [bə ɣ̠ːɾ̠ʲiː cː]</td>
<td>(ba d̠ˠrˠiː)</td>
<td>‘he was a druid’</td>
</tr>
<tr>
<td></td>
<td>ní ba dhraoi ē [n̠ʲɪ̯ːb̠ˠiː ɣ̠ːɾ̠ʲiː cː]</td>
<td>ní-po d̠ˠrˠiː [n̠ʲɪ̯ːb̠ˠo d̠ˠɾˠiː]</td>
<td>‘he was not a druid’</td>
</tr>
</tbody>
</table>

¹ Mutational triggers based on Modern Irish; Old Irish examples included as well, in parentheses if the mutation differs from the modern language.
² also don bhean bheag [gən̠ˠən̠ˠv̠ːn̠ˠəv̠ːog] (as in the Official Standard)
³ do, from Old Irish ro, formally preceded all of these “past” tense forms, and still does in Munster dialects (do ghoid) and also in all dialects before vowels and lenited /f/: d’ól [doːl̠ˠ] ‘drank’ and d’fhág [dəɡ] ‘left’.
⁴ LEN in leniting relative clauses only; [roγ̠ːgad̠] normally in main clauses.
⁵ later negfattad [n̠ʲoˈγ̠ːd̠ˠf̠ˠaːd̠]
⁶ Old Irish gataid exceptionally has an -é-future (gétaid) by analogy with gaibid ‘takes’ and gairid ‘calls’ instead of the expected f-future (*gaitfid). Thurneysen, GOI §651.b.
⁷ often no LEN following ba in Conamara Irish especially on /d, t, g/ (Ó Siadhail (1988), p. 170): ba draoi é [bə d̠ˠɾˠiː cː]. However, there usually is LEN with idiomatic adjective expressions such as ba mhaith liom [bə mət̠ˠliːm] ‘I would like’ (lit. would.be good with.me) and ba cheart dom [bə çɛːɾˠt d̠ˠum] ‘I should’ (lit. would.be right to.me).
⁸ no lenition after positive, non-relative, preterit of the copular; only gemination.
Analogy has also played a large role in the development of the mutational system and the mutations spread beyond their original bounds and became more standardized. The spread of séimhiú after genitive singular masculine nouns exemplifies this.

In Old Irish most masculine nouns in the genitive singular triggered LEN on a following adjective:

<table>
<thead>
<tr>
<th>Case</th>
<th>Nom</th>
<th>Gen</th>
<th>Translation</th>
<th>Primitive Irish</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>fer cóem</td>
<td>[fɛɾˠ kʊ̯]</td>
<td>‘a nice man’</td>
<td>*yirah</td>
</tr>
<tr>
<td>GEN</td>
<td>fir choim</td>
<td>[fɪɾˠ xʊ̯]</td>
<td>‘of a nice man’</td>
<td>*yirέ</td>
</tr>
</tbody>
</table>

However for some classes of nouns, like u-stem and consonant-stem nouns, this was not the case because the genitive ending did not historically terminated with a vowel, as demonstrated by the Primitive Irish forms of the nouns to the right¹. For example the nt-stem cara / *karant-/ ‘friend’:

<table>
<thead>
<tr>
<th>Case</th>
<th>Nom</th>
<th>Gen</th>
<th>Translation</th>
<th>Primitive Irish</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>cara cóem</td>
<td>[kæɾˠɛ kʊ̯]</td>
<td>‘a nice friend’</td>
<td>*karέh</td>
</tr>
<tr>
<td>GEN</td>
<td>carat coím</td>
<td>[kæɾˠɛd kʊ̯]</td>
<td>‘of a nice friend’</td>
<td>*karέdah</td>
</tr>
</tbody>
</table>

#carat choím²

In Modern Irish on the other hand, all masculine genitive singular nouns cause LEN:

<table>
<thead>
<tr>
<th>Case</th>
<th>Nom</th>
<th>Gen</th>
<th>Translation</th>
<th>Primitive Irish</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>fear caomh</td>
<td>[fæɾˠ ki:w]</td>
<td>‘a pleasant man’</td>
<td></td>
</tr>
<tr>
<td>GEN</td>
<td>fir choimh</td>
<td>[fɪɾˠ xi:v]</td>
<td>‘of a pleasant man’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Case</th>
<th>Nom</th>
<th>Gen</th>
<th>Translation</th>
<th>Primitive Irish</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>cara(id) caomh</td>
<td>[kæɾˠɛd ɹ̥ð kɪ:w]</td>
<td>‘a pleasant friend’</td>
<td></td>
</tr>
<tr>
<td>GEN</td>
<td>carad choimh</td>
<td>[kæɾˠɛd ð̥ ɹ̥ð xi:v]</td>
<td>‘of a pleasant friend’</td>
<td></td>
</tr>
</tbody>
</table>

#carad caoimh

Analogy can work in other ways as well. For example an instance of lenition being lost: in Old Irish masculine nouns underwent LEN after the definite article in the nominative plural, but feminine and neuter ones did not:

<table>
<thead>
<tr>
<th>Case</th>
<th>Nom</th>
<th>Gen</th>
<th>Translation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>masculine:</td>
<td>in catt</td>
<td>[ɪŋˠ kat]</td>
<td>‘the cat’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in chait</td>
<td>[ɪŋˠ xaɪt]</td>
<td>‘the cats’</td>
<td>{cait}³</td>
</tr>
<tr>
<td>feminine:</td>
<td>in cloch</td>
<td>[ɪŋˠ xloχ]</td>
<td>‘the stone’</td>
<td>{cloch}</td>
</tr>
<tr>
<td></td>
<td>(in)na clocha</td>
<td>[ɪ(ɪ)ŋˠə ɪkloχa]</td>
<td>‘the stones’</td>
<td></td>
</tr>
</tbody>
</table>

¹ Primitive Irish from Stifter, p. 45 for *yirah ‘man’ and p. 162 for *karέh ‘friend’
² # indicates an incorrect/unpermitted form
³ braces {} indicate the radical, unmutated form of a word.
neuter: a cenn [a jeŋˠ̪] ‘the head’ {cenn}
(in)na cenn(a) [(i)n̪ˠə ɛŋˠ](a) ‘the heads’

In Modern Irish the plural article is uniformly na [n̪ˠə] and causes no lenition:

na cait [n̪ˠɔ kʰ́t̪] ‘the cats’
#na chait
na clocha [n̪ˠɔ kloxo] ‘the stones’
na ceanna 4 [n̪ˠə cæ:no] ‘the heads’ (MASC in Modern Irish)

The more complex array of mutational forms of Old Irish fell into a simple and standardized rule in the modern language.

Séimhiú historically took place between two vowels—whether word internally or word initially if in a close syntactic relationship between the two words exists. Phonologically this mutation realizes itself as a weakening of the manner of articulation, manifested by frictivization, or laxening or debuccalization (Green, Anthony (2006), p. 1949). By these assimilatory changes, the consonants become more vowel-like (Ó Dochartaigh (1978), p. 464).

\[\text{Séimhiú} 5\]

<table>
<thead>
<tr>
<th>radical</th>
<th>lenited form</th>
</tr>
</thead>
<tbody>
<tr>
<td>frictivization of oral plosives and nasal stop /m/:</td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>f</td>
</tr>
<tr>
<td>t</td>
<td>ð</td>
</tr>
<tr>
<td>k</td>
<td>x</td>
</tr>
<tr>
<td>b</td>
<td>β</td>
</tr>
<tr>
<td>d</td>
<td>ð</td>
</tr>
<tr>
<td>g</td>
<td>γ</td>
</tr>
<tr>
<td>m</td>
<td>μ</td>
</tr>
</tbody>
</table>

laxening of liquids and /n/:

| L       | l           |
| R       | r           |

4 also cinn [ciːn̪ˠ]
5 for a more detailed depiction of lenition including palatalized variants and Modern Irish examples, see Appendix i.
With the loss of the interdental fricatives /θ/ and /ð/ the system becomes less uniform in Modern Irish.

*Urú* results from a historical nasal sound in word final position which was lost in the Early Irish period due to apocope—the loss of final syllables. This nasal caused the voicing of voiceless sounds, the nasalization of voiced sounds, and the insertion of a “tense” dental nasal /N/ before a vowel. In the case of vowels, the nasal is actually the remnant of the formerly present nasal which persisted in front a vowel in contexts where it usually would have been lost in apocope.

<table>
<thead>
<tr>
<th>radical</th>
<th>eclipsed form</th>
</tr>
</thead>
<tbody>
<tr>
<td>voicing of voiceless stops and fricative /f/ :</td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>b</td>
</tr>
<tr>
<td>t</td>
<td>d</td>
</tr>
<tr>
<td>k</td>
<td>g</td>
</tr>
<tr>
<td>f</td>
<td>v</td>
</tr>
<tr>
<td>nasalization of voiced stops:</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>mb</td>
</tr>
<tr>
<td>d</td>
<td>Nd</td>
</tr>
<tr>
<td>g</td>
<td>ñg</td>
</tr>
</tbody>
</table>

*Uró* ⁶ for a more detailed depiction of eclipsis including palatalized variants and Modern Irish examples, see Appendix ii.
dental nasal prefixed to vowels:

<table>
<thead>
<tr>
<th>V</th>
<th>NV</th>
</tr>
</thead>
</table>

no change:

| s | s |
| m | m |
| L | L |
| R | R |
| N | N |

In early Old Irish the voiced plosives remained after the prefixed homorganic nasals, but the nasals soon overtook (i.e. “eclipsed”) them and they disappeared.

Formerly an “accidental” purely phonological occurrence, by the Old Irish period syntactic and morphological processes triggered the mutations. These mutations may or may not have an essential role in meaning. For example, the third person possessive pronouns in Irish share the identical form *a* [ə]; only mutation or lack of mutation distinguishes between ‘his’, ‘her’ and ‘their.’ For example, the Modern Irish word *bróg* 7 ‘shoe’ has three mutational by-forms:

the radical (non-mutation):  *bróg*  [bɾˠoːɡ]
the lenited form:  *bhróg*  [vɾˠoːɡ]
the eclipsed form:  *mbróg*  [mɾˠoːɡ]

All of these are brought into play when combing *bróg* the third person possessive pronouns:

*a bhróg*  [ə vɾˠoːɡ]  ‘his shoe’
*a bróg*  [ə bɾˠoːɡ]  ‘her shoe’
*a mbróg*  [ə mɾˠoːɡ]  ‘their shoe’

Any confusion of the mutated forms would change the meaning. Oftedal (1962) claims that the mutation which word like ‘his’ trigger are a part of the word itself. Using the Scottish Gaelic *a mhàthair* /ə ɣaːhɔɾʲ/ (unlenited *màthair* [maːhɔɾʲ] ‘mother’) as an example, he asserts that the morpheme ‘his’ consists of more than /ə/, but rather that the fricative quality ([+cont]) of the /ɣ/ belongs to it as well. The labial nature of /ɾʲ/ along with the rest of the word carries the meaning ‘mother’ (p. 97-98). Thus it is /ə/ + LEN which carries the meaning ‘his’ and the form

---

7 Conamara often has *bróg* [bɾˠoːɣ] for the old dative singular of this class of noun usually replaces the nominative.
/ ʰaːr/ exhibits syncretism, for it both carries the meaning of ‘mother’ and contains a part of the meaning of ‘his’.

On the other hand, in other instances the presence of mutation does not add anything to the meaning. The noun geata ‘gate’ has in the variations geata [ˈɡɛːtə], gheata [ˈɡɛːtə], and ngeata [ɲˈɛːtə]. When saying ‘at the gate’ the use of LEN or NAS has no contrastive meaning in Modern Irish.

Connacht and Munster dialects employ eclipsis, while Ulster Irish utilizes lenition here:

<table>
<thead>
<tr>
<th>Connacht/Munster</th>
<th>ag an ngeata</th>
<th>[ɛɟə ɲɛːtə]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulster</td>
<td>ag an gheata</td>
<td>[ɛɟə ʃɛtə]</td>
</tr>
</tbody>
</table>

The urú or séimhiú of geata adds nothing to the meaning. If one were to violate the rule and omit mutation here—ag an geata [ɛɟə ɡɛːtə]—one would be understood, but be grammatically wrong.⁸ Thus, in the case of Modern Irish prepositional phrases, if mutation did not exist, meaning would not be affected. Historically Old Irish, however, differentiated case in part by the different mutations in prepositional phrases.

<table>
<thead>
<tr>
<th>i [i] ‘in( to)’:</th>
</tr>
</thead>
<tbody>
<tr>
<td>with DAT, ‘in’</td>
</tr>
<tr>
<td>isin chnáim</td>
</tr>
<tr>
<td>isin chridiú</td>
</tr>
<tr>
<td>with ACC, ‘into’</td>
</tr>
<tr>
<td>isin cnáim</td>
</tr>
<tr>
<td>isin cride</td>
</tr>
</tbody>
</table>

Modern Irish has no distinct inflectional accusative case and little trace of a dative. Dialectal choice of mutation in prepositional phrases has no consequence to meaning. In the Caighdeáin⁹ the preposition and article combination sa [sə] ‘in the’ uses LEN, while many dialects employ NAS. The meaning ‘into’ is supplied periphrastically with the adverb isteach [ɪʃˈæx].

<table>
<thead>
<tr>
<th>sa chnáimh / gcnáimh</th>
<th>[sə ʃr̪ˈa̯ːɪm / ɡr̪ˈa̯ːɪm]¹⁰</th>
<th>‘in the bone’</th>
</tr>
</thead>
<tbody>
<tr>
<td>isteach sa chnáimh / gcnáimh</td>
<td>[ɪʃˈæx:sə ʃr̪ˈa̯ːɪm / ɡr̪ˈa̯ːɪm]</td>
<td>‘into the bone’</td>
</tr>
</tbody>
</table>

However, as previously shown above, mutation still does affect the meaning in the case of possessive pronouns.

---

⁸ The only confusion could result from a word #ceata [cæːtə] whose eclipsed from #geata [ɡɛːtə] would sound the same as the unmutated geata [ɡɛːtə].

⁹ official standard of Modern Irish, see Gramadach na Gaeilge agus litriú na Gaeilge – an caighdeán oifigiúil.

¹⁰ change of [n] to [r] after stops (and [m]) is a feature of Connacht and Ulster dialects.
Irish utilizes mutation in many different positions. The vast majority of mutational situations occur within noun phrases or on the verb. Beginning with noun phrases, mutation can either happen to the noun itself or the adjective. An outline of the syntactic positions in which initial mutations occur in Modern Irish follows (based on, and some examples adapted from, Ó Siadhail (1995), Christian Brothers and Mac Congáil):

III.a. NOMINAL SHÉIMHIÚ
LEN takes place on the noun after:

• the feminine singular definite article:
  
  *an bhbróg {bróg} [ə vɾ̪oːg] ‘the shoe’

• the masculine singular definite article:
  
  *an fhír {fir} [ɔˈpʰir] ‘of the man’

• some prepositions with the article:
  
  *ag an chathair {cathair} [əɡ ə xæʰær] ‘at the city’ (Ulster)
  
  *don chathair [dgon xa:(h)əɾʲ] ‘to/for the city’

• some prepositions:
  
  *do bhcean {bean} [ɡə vˈæːn] ‘to/for a woman’

• numbers 1-6:
  
  *dhá bhbróg [də vɾ̪oːj] ‘two shoes’
  
  *trí bhbróg [tɾiː vɾ̪oːɡ] ‘three shoes
  
  *cheithre bhbróg [ʧɛhɾə vɾ̪oːɡ] ‘four shoes’

• possessive pronouns (SG1, SG2, SG3M):
  
  *mo chara {cara} [mə xaːɾə] ‘my friend’
  
  *do chara [də xaːɾə] ‘your friend’
  
  *a chara [ə xaːɾə] ‘his friend’

• the vocative particle:
  
  *a Sheáin [ə ʃəːn] ‘(oh,) Seán’
• the past tense of the copula:

\[ \text{ba } \text{mhúinteoir } \text{mé} \]  
\[ \text{be.PST teacher SG1} \]

\[ [\text{ba } \text{bú:nhːtoːr mːe}] \]

‘I was a teacher’

• prefixes:

\[ \text{an-mhaith } \]  \{\text{maith}\}  
\[ [\text{aːnːwːaː}] \]

‘very good’

LEN happens to an adjective after:

• feminine nouns in the nominative singular:

\[ \text{bean mhóir} \]  \{\text{mór}\}  
\[ [\text{bːæːnːoːɾ} \text{wːɾ}^{\prime}] \]

‘big woman’

• feminine nouns in the dative singular:

\[ \text{ag an mnaoi mhóir} \]
\[ [\text{ɛɟ ə mːɾʲiː wːɾ}^{\prime}] \]

‘at the big woman’

\[ \text{ag an mbean mhóir} \]
\[ [\text{ɛɟ ə mːæːnːoːɾ} \text{wːɾ}^{\prime}] \]

‘at the big woman’

• masculine nouns in the genitive singular:

\[ \text{an thir mhóir} \]  \{\text{mór}\}  
\[ [\text{ə ɾʲiːɾ} \text{wːɾ}^{\prime}] \]

‘of the big man’

• nouns in the vocative singular:

\[ \text{a ghrá gheal} \]  \{\text{geal}\}  
\[ [\text{ə ɣɾˠɑː:jæːl̪ˠ}] \]

‘oh bright love’

• plural masculine nouns ending in Cʲ (palatal consonant):

\[ \text{báid mhóra} \]  \{\text{móra}\}  
\[ [\text{bːdʲ wːɾˠoːɾ}^{\prime}] \]

‘big boats’

but:

\[ \text{buachaillí móra} \]
\[ [\text{buːxːəjliː mːoːɾ}^{\prime} \text{ə}] \]

‘big boys’

• singular nouns preceded by a number (2-10)

\[ \text{seacht mbó bhéaga} \]  \{\text{beaga}\}  
\[ [\text{ʃːɛxt moː vːoɡə}] \]

‘seven little cows’

• the past tense of the copula:

\[ \text{ba dheas an cailín í} \]  
\[ \text{be.PST nice DEF girl PRON.SG3.ACC} \]

‘she is a nice girl’
• LEN may spread to multiple adjectives:

\[
\text{an bhean bheag bán} \quad \{\text{beag, bán}\} \quad \{\vog \text{og wːːɾ}\} \quad \text{‘the small fair woman’}
\]

\[
\text{an thír bhige dhuibhe} \quad \{\text{bige, duibhe}\} \quad \{\ŋiːɾ \text{ŋiːɾ} \vog \vog\} \quad \text{‘of the small dark man’}
\]

Additionally, proper nouns and definite noun phrases in the genitive case (whether overt or not) are lenited:

\[
\begin{align*}
\text{• os cionn dhoras an tí} & \quad \{\text{doras}\} \\
\quad & \quad \{\text{doras}\} \\
\quad & \quad \text{‘above the door of the house’}^{11} \\
\text{• ar son Mháire} & \quad \{\text{Máire}\} \\
\quad & \quad \{\text{Máire}\} \\
\quad & \quad \text{‘for Máire’s sake’}
\end{align*}
\]

LEN also occurs internally in compound words on the beginning of the non-initial elements:

\[
\begin{align*}
\text{• bréagfolt} & \quad \{\text{bɾʲeːg ol̪t}\} \\
\quad & \quad \text{‘wig’} \\
\quad & \quad \text{from bréag ‘lie’ + folt ‘hair’} \\
\text{• griangraf} & \quad \{\text{ɡɾʲiːn graf}\} \\
\quad & \quad \text{‘photograph’} \\
\quad & \quad \text{from grian ‘sun’ + graf ‘graph’}
\end{align*}
\]

III.b. Nominal Urú

NAS takes place on nouns after:

• some prepositions with the article:

\[
\begin{align*}
\text{ag an gcathair} & \quad \{\text{cathair\}'\} \\
\quad & \quad \{\text{cathair\}'\} \\
\quad & \quad \text{‘at the city’} \\
\quad & \quad \text{(Connacht & Munster dialects)}
\end{align*}
\]

• some prepositions:

\[
\begin{align*}
\text{i mBostún} & \quad \{\text{Bostún}\} \\
\quad & \quad \{\text{Bostún}\} \\
\quad & \quad \text{‘in Boston’}
\end{align*}
\]

• numbers 7-10

\[
\begin{align*}
\text{ocht gcloch} & \quad \{\text{cloch}\} \\
\quad & \quad \{\text{cloch}\} \\
\quad & \quad \text{‘eight stones’}
\end{align*}
\]

---

11 doras an tí considered definite and “genitive” – double genitive like *os cionn dhoras an tí not permitted.
• genitive plural article:
  
  \[ \text{na } \text{bh}f\text{ear} \quad \{\text{fear}\} \quad [\text{n}\text{\^{a}} \text{v}^{\text{æ:}\text{r}^{\text{o}}}^{-}] \quad \text{‘of the men’} \]

• plural possessive pronouns:
  
  \[ \text{ár } \text{de}ach \quad \{\text{teach}\} \quad [\text{\^{a} } \text{d}^{\text{æ:x}}] \quad \text{‘our house’} \]
  \[ \text{bhur } \text{de}ach \quad [\text{\^{a} } \text{d}^{\text{æ:x}}] \quad \text{‘your (PL) house’} \]
  \[ \text{a } \text{de}ach \quad [\text{\^{a} } \text{d}^{\text{æ:x}}] \quad \text{‘their house’} \]

• after the permanently lenited \[ \text{dhá} \quad [\text{\^{a} } \text{ɣ}^{\text{ɑ}}^{\text{:}}] \quad \text{‘two’} \] when proceeded by a plural possessive pronoun:
  
  \[ \text{a } \text{dhá } \text{mbád} \quad \{\text{bád}\} \quad [\text{\^{a} } \text{ɣ}^{\text{ɑ}}: \text{m}\text{æ:d}] \quad \text{‘their five boats’} \]
  
  versus:
  
  \[ (a) \text{ dhá bhád} \quad [\text{(\^{a} ) } \text{ɣ}^{\text{ɑ}}: \text{wæ:d}] \quad \text{‘(his) five boats’} \]
  \[ \text{a } \text{dhá } \text{bád} \quad [\text{\^{a} } \text{ɣ}^{\text{ɑ}}: \text{ba:d}] \quad \text{‘her five boats’} \]

• certain historical prefixes:
  
  \[ \text{éagóir} \quad [\text{e:go:}\text{ɾ}^{\text{t}}] \quad \text{‘injustice’} \]
  
  (from \[ \text{\^{e} } \text{N}^{\text{‘neg. prefix’}} + \text{cóir}^{\text{‘justice’}}^{12} \])

Numerals (except \[ \text{dhá} \quad \text{‘two’} \]) may undergo \[ \text{urtí} \] following:

• the genitive plural definite article \[ \text{na}^{\text{N}} \]:
  
  \[ \text{na } \text{d}r\text{i bhó} \quad \{\text{trí}\} \quad [\text{n}\text{\^{a}} \text{d}^{\text{r}^{\text{i}}}:\text{b}^{\text{o}}:] \quad \text{‘of the three cows’} \]

• some prepositions in conjunction with the definite article:
  
  \[ \text{ag } \text{na } \text{n-ocht } \text{gcrann} \quad \{\text{ocht}\} \quad [\text{\^{e} } \text{ŋ}^{\text{ş}}: \text{ŋ}^{\text{øxt } \text{gr}^{\text{ø:a} \text{ŋ}^{\text{y}}}}] \quad \text{‘at the eight trees’} \]

• possessive pronouns:
  
  \[ \text{a } \text{ge}úg \text{ theach} \quad \{\text{cúig}\} \quad [\text{\^{a} } \text{gu:ʒ h}^{\text{æ:x}}] \quad \text{‘their five houses’} \]

\[ \text{NAS on adjectives occurred in Old Irish, in the same conditions that a noun nasalizes after the definite article (i.e. genitive plural, accusative singular and neuter nominative singular). Some older speakers of Munster Irish preserve this old feature of eclipsing adjectives, but only with those beginning with consonants.} \]

\[ ^{12} \text{very limited negative prefix, only found before nouns with radical of } /\text{c/}, /\text{t/} \text{ or } /\text{s/}; \text{ c.f. GOI } \text{§872.} \]
Conroy Mutations

III. Irish

• Old Irish:

* inna cáerach mbín [ɪn̪ˠəɡəɾˠəx m(b)ə:nˠ] ‘of the white sheep (PL)’

* in cáeraig n-álaind [ɪn̪ˠəɡɾˠəx m(b)ə:nʲdʲ] ‘the beautiful sheep (ACC.SG)’

• Munster Irish (Ó Buachalla 2003 & Ó Sé):

* aige’n gcaoirigh mbocht [ɛɟənɡəɾˠɪɟ moxt] ‘at the poor sheep (SG)’

* aige’n gcaoirigh14 álainn [ɛɟənɡəɾˠɪɟ a:ɾˠənʲd] ‘at the beautiful sheep (SG)’

but #aige’n gcaoirigh n-álainn

{bán, álaind, bocht, álainn}

III.c. VERBAL SHÉIMHIÚ

In verbs mutation is largely governed by particles, although mutation alone can also mark tense.

Triggers for **LEN** on verbs:

• absolute (positive) forms of verbs in the simple past, imperfect/past habitual and conditional15

  * phógarad {póg} [foːɡəɾˠdˠ] ‘they kissed’ 16

  * phógaidís [foːɡədʲiːʃ] ‘they used to kiss’

  * phógaídís [foːkədʲiːʃ] ‘they would kiss’

• negative particles **ní** and **níor** (**níor** simple past only, except for some irregular verbs):

  * ní bhfrisfídh mé é síu [nʲiː vɾʲiʃə mʲeː eː ʃɪnʲ] ‘I will not break that’

  * níor bháig mé {fáig} [ŋliːɾˠ aːɡ mʲeː] ‘I did not leave’

---

13 *bein* is archaic accusative of ‘woman’, replaced by *mnaí* [mnaɪ] early in Old Irish (Stifter, p. 61).

14 *caoirigh* is the dative singular form rarely used outside of Munster, elsewhere it is the same as the NOM, i.e. *caora* [kəɾˠa].

15 In Classical Modern Irish **LEN** triggered by *do* [dɔ], from the Old Irish perfective particle *ro* [ro], which can still appear in Munster Irish, e.g. *do phógarad*.

This particle appears in Modern Irish as *d’* before vowels and lenited /f/ in the past tenses: *d’ol mé* [dɔːl mʲeː] ‘I drank’, *d’fháig mé* [dɔːɡ mʲeː] ‘I left’.

16 standard = *phóg siad* [foːɡ ʃiːd]
simple past tense question particles:

- *ar pógadar?* (pógadar) [əɾˠ fo:gədəɾˠv] (kiss.PST.PL3)
  - ‘did they kiss?’

- *nár bris tú do láimh?* (bris) [ŋˠa:rˠə vʲɾʲɪʃ tuː do ʃə:vʲ] (NEG.Q.PST break.PST SG2 POSS.SG2 hand)
  - ‘didn’t you break your hand?’

• “real condition” má ‘if’:

- *má bhíonn tú liom* (bíonn) [mə: vʲiː(ə)nˠ tuː lʲum] (if be.PRES.HAB SG2 with.SG1)
  - ‘if you are with me’

- *an fear a phóganns an bhean* (póganns) [ə fæːrˠə foːɡən̪ˠs a vʲəːnˠə]
  - ‘the man who kisses the woman’ / ‘the man whom the woman kisses’

• past tense particles (i.e. past tense verbs retain LEN):

- *dúirt mé gur cheannaigh mé é* (ceannaigh) [dʊːɾˠ mʲeː ʃəːnˠə nˠə mʲeː ʃəː]
  - ‘I said that I bought it’

- *dúirt mé nár cheannaigh mé é* [dʊːɾˠ mʲeː ʃəːnˠə nˠə mʲeː ʃəː]
  - ‘I said that I did not buy it’

---

17 standard *phógann* [foːɡənʲ], correct special “direct relative form” of Classical Modern Irish *phógas* [foːɡəs] (still used in Ulster). The Conamara form *phógans* is a mixture of the two.
Conroy Mutations

III. Irish - 19 -

\[
\begin{align*}
\text{sular} & \quad \text{tháinig} & \quad \text{mé} & \quad \{\text{táinig}\} & \quad [\text{suləɾ hə:nʲə c məː}] \\
\text{before.PST} & \quad \text{come.PST} & \quad \text{SG1} & \quad & \quad \\
& \quad \text{‘before I came’} \\
\text{cár} & \quad \text{fhan} & \quad \text{tú?} & \quad \{\text{fan}\} & \quad [\text{kə:ɾʲ a:nʲ tuː}] \\
\text{where.PST} & \quad \text{stay.PST} & \quad \text{SG2} & \quad & \quad \\
& \quad \text{‘where did you stay?’} \\
\text{marar}^{18} & \quad \text{fhág} & \quad \text{tú} & \quad \{\text{fág}\} & \quad [\text{maːɾʲəɾˠ aːɡ tuː}] \\
\text{NEG.if} & \quad \text{leave.PST} & \quad \text{SG2} & \quad & \quad \\
& \quad \text{‘unless you left’} \\
& \quad \text{(final /ɾ/‘s all from the Old Irish perfective augment ro)} \\
\end{align*}
\]

*past/conditional copula

\[
\begin{align*}
\text{ba mhaith leat} & \quad [bə waː ˈpæːt] & \quad \text{‘you would like’}^{19} & \quad \{\text{maith}\} \\
\text{ba múinteoir í} & \quad [bə ˈmjuːnʲəɾʲ oːɾʲ iː] & \quad \text{‘she was a teacher’} & \quad \{\text{múinteoir}\} \\
\text{ní ba mhaith leat}^{20} & \quad [nʲiː ˈbə waː ˈpæːt] & \quad \text{‘you would not like’} \\
\text{an mba mhaith leat}^{21} & \quad [ə mə waː ˈpæːt] & \quad \text{‘would you like?’} \\
\text{nach mba mhaith leat}^{22} & \quad [n̪ˠəxa ˈmə waː ˈpæːt] & \quad \text{‘wouldn’t you like?’} \\
\end{align*}
\]

III.d. Verbal urú

NAS triggers on verbs:

* question particles:

\[
\begin{align*}
\text{an dhuigeann tú?} & \quad [ə d(ʰ)əŋʲ tuː] & \quad \text{‘do you}^{23} \text{ understand?’} & \quad \{\text{tuigeann}\} \\
\text{nach dhuigeann tú?} & \quad [n̪ˠəxa d(ʰ)əŋʲ tuː] & \quad \text{‘don’t you understand?’} \\
\end{align*}
\]

---

\(^{18}\) standard \text{murar} [məɾˠəɾˠ]

\(^{19}\) (lit. \text{would.be well with.you})

\(^{20}\) standard \text{nior} [nʲiːrˠəɾˠ]

\(^{21}\) standard \text{ar} [əɾˠ]

\(^{22}\) standard \text{nár} [n̪ˠəaːɾˠ]

\(^{23}\) SINGULAR

\[ \text{na croinnte} \quad a \quad \text{tagann} \quad \text{na héin} \]
\[ \text{DEF} \quad \text{tree.PL} \quad \text{REL.PRT} \quad \text{come.PRES} \quad \text{DEF} \quad \text{bird.PL} \quad \text{out-of.PL.3} \]
\[ [\text{n̪ˠə kɾˠaːn̪ˠə} \; \text{a} \; \text{dąːɡən̪ˠə} \; \text{n̪ˠə} \; \text{heːn̪ˠə} \; \text{aːstə}] \]
\[ '\text{the trees which the birds come out of}' \]

\[ \text{na croinnte as a} \quad \text{tagann} \quad \text{na héin} \]
\[ \text{DEF} \quad \text{tree.PL} \quad \text{out-of} \quad \text{REL.PRT} \quad \text{come.PRES} \quad \text{DEF} \quad \text{bird.PL} \]
\[ [\text{n̪ˠə kɾˠiːn̪ˠə} \; \text{aː} \; \text{dąːɡən̪ˠə} \; \text{n̪ˠə} \; \text{heːn̪ˠə}] \]
\[ '\text{the trees out of which the birds come}' \]

\[ \text{an bhean a bhfuil a hathair tinn} \quad \{\text{fuil}\} \]
\[ \text{DEF} \quad \text{woman} \quad \text{REL.PRT} \quad \text{be.pres.conj} \quad \text{POSS.SG.3} \quad \text{father} \quad \text{sick} \]
\[ [\text{ə væːn̪ˠə} \; \text{ə wɪlʲ} \; \text{ə bæː(h)s} \; \text{t̪iːn̪ˠ}] \]
\[ '\text{the woman whose father is sick}' \]

\[ \text{an fear a bpógann an bhean} \; \text{é} \]
\[ \text{DEF} \quad \text{man} \quad \text{REL.PRT} \quad \text{kiss.PRES} \quad \text{DEF} \quad \text{woman} \quad \text{SG.3.MASC} \]
\[ [\text{ə fæːrˠə} \; \text{ə bɔːɡən̪ˠə} \; \text{ə væːn̪ˠə} \; \text{eː}] \]
\[ '\text{the man whom the woman kisses}' \]

• non-past negative relative particle \textit{nach} (direct and indirect):

\[ \text{na croinnte nach} \quad \text{tagann} \quad \text{na héin astu} \]
\[ \text{DEF} \quad \text{tree.PL} \quad \text{NEG.REL.PRT} \quad \text{come.PRES} \quad \text{DEF} \quad \text{bird.PL} \quad \text{out-of.PL.3} \]
\[ [\text{n̪ˠə kɾˠiːn̪ˠə} \; \text{naːx} \; \text{dąːɡən̪ˠə} \; \text{n̪ˠə} \; \text{heːn̪ˠə} \; \text{aːstə}] \]
\[ '\text{the trees which the birds do not come out of}' \]

\[ \text{an fear nach n-iosfaidh} \quad [\text{ə fæːrˠə} \; \text{ə n̪ˠaːx} \; \text{ŋiːsə}] \quad \{\text{iosfaidh}\} \]
\[ \text{DEF} \quad \text{man} \quad \text{NEG.REL.PRT} \quad \text{eat.FUT} \]
\[ '\text{the man who will not eat}' \]

\[ ^{24} \text{standard crainn [kɾˠaːn̪ˠə]} \]
\[ ^{25} \text{also na héanachai [n̪ˠə kɾˠiːn̪ˠəxɪː]} \text{ in Conamara Irish} \]
\[ ^{26} \text{this type of construction involves a resumptive pronoun; literally, ‘the trees, which the birds come out of them’} \]
• a ‘whatever’:

\[
\text{an áit agus a bhfuil inti}
\]

[an\,\text{áit} a\text{gus} a\text{ bhfuil}\text{ inti}]

‘the place and whatever is in it’

• cá ‘where’:

\[
cá \text{ mbeidh} do \text{ mhaic?} \{\text{beidh}\} \quad [\text{k:ə\, mə\, də\, wə:k}]
\]

where\, be.FUT\, POSS.SG2\, son

‘where will your son be?’

• complementizer particles:

\[
dúirt sí go nglanann sí \{\text{glanann}\} \quad [\text{duːɾʲ\, si: go nɭaːɳː\, si:}]
\]

say.PST\, SG3.F\, COMPL\, clean.PRES\, SG3.F,NOM

‘she says that she cleans’

\[
dúirt sí nach nglanann sé \quad [\text{duːɾʲ\, si: nax nɭaːɳː\, seː}]
\]

say.PST\, SG3.F\, NEG.COMPL\, clean.PRES\, SG3.M,NOM

‘she says that he doesn’t clean’

• “unreal” dhá27 ‘if’ (with conditional or past subjunctive only):

\[
dhá \text{ mbeadh airgead agam} 28 \quad [\text{mə\, beːdə\, aɾɡəd\, aːm}]
\]

if\, be.COND\, money\, at.SG1

‘if I were to have money’

• negative conditional mara ‘unless’ (negative of both dá and má, used with all tenses (but habitual present used in place of future)):

\[
mara 29 \text{ mbeadh airgead agat} 30 \quad [\text{məːɾa\, beːdə\, aɾɡəd\, aːt}]
\]

NEG.if\, be.COND\, money\, at.SG2

‘unless you were to have money’

\[27\] standard dá [daː]

\[28\] often a’m [əːm] rather than agam [aːɡəm] in Conamara

\[29\] standard mura [mʊɾə], also dialectally muna [mʊnə]

\[30\] often a’d [aːd] rather than agat [aːɡət] in Conamara
Conroy Mutations

III. Irish  - 22 -

**mara bhfuil mo chara anseo**  
NEG if be.PRES.CONJ POSS.SG1 friend here  
‘if my friend is not here’

**mara mbíonn na cúití sa scioból**  
NEG if be.PRES.HAB DEF hound.PL in.DEF barn  
‘if the hounds/greyhounds won’t be in the barn’

• **sol má** 32 ‘before’:
  
  **sol má n-imím ar scoil**  
  before go.PRES.SG1 to school  
  ‘before I go to school’

• subjunctive particle **go**:
  
  **go ndéantar do thoil**  
  PRT do.PRES.AUT POSS.SG2 will  
  ‘may thy will be done’

### III.e /t/ PREFIXED TO /s/

Additionally, after the definite article in LEN–triggering circumstances, a /t/ prefixes to nouns beginning with a /s/ that is followed by a vowel, /l/, /n/, or /r/. The /t/ “eclipses” the /s/ and the latter is not pronounced. Refer to section XI for the historical background. This change operates on:

• feminine singular nouns in the nominative (/accusative) and after prepositions (even ones which would normally eclipse):
  
  **an tseachtain**  
  [ə tæːxtən]  
  ‘the week’

  **ar an tsráid**  
  [əɾ ə trəd]  
  ‘on the street’

  **don tsláinte**  
  [ɡɔn̪ tʃlaːntə]  
  ‘to/for the health’

---

31 or standard cúinna [kuiŋnə] ~ [kuiŋnə] (or coin [kɒin], etc.)

32 standard sula [suːlə]
Conroy Mutations

III. Irish

- masculine nouns in the genitive singular:

  \( \text{an tsagairt} \) \[\text{[\text{o} \text{tə:ɡɔɾʲt̪]}}\] 'of the priest'

- not after prepositions in the standard language, but often dialectically:

  \( \text{don sagart} \) \[\text{[gən̪ sa:ɡɔɾʲt]}}\] 'to/for the priest'

  or

  \( \text{don tsagart} \) \[\text{[gən̪ ta:ɡɔɾʲt]}}\]

  \( \text{ag an siopa} \) \[\text{[ɛɟ ə ŋʊpa]}}\] 'at the shop'

  or

  \( \text{ag an tsipa} \) \[\text{[ɛɟ ə tʲʊpə]}}\]

Analogical has played a large role in the contexts in which mutations apply in Irish. The Modern Irish system has been extended and simplified to cover more situations than are historically warranted, and sometimes discarded certain usages of mutation. However, despite this simplification and proliferation of the system, large amounts of dialectal variations do remain in relation to mutations.
IV. Welsh

Representing the Brythonic Celtic branch, Welsh has three mutations — *treiglad meddal* [tɾɛɬlad meɾdəl] (soft mutation, lenition), *treiglad llaes* [tɾɛɬlad lɬaes] (aspirate mutation, spirant mutation), and *treiglad trwynol* [tɾɛɬlad truynəɬ] (nasal mutation). As with Irish, these mutations historically resulted from phonetic conditions, but now have morphological triggers.

Proto-Celtic *bostā*¹ ‘palm (of hand), fist’ — lenition after the definite article:

\[
\begin{array}{ll}
\text{Welsh: } & \text{Irish: }\\
\text{bos ‘palm’} & \text{bos ‘palm’} \\
\text{British: } & \text{Primitive Irish: } \\
*bïndà bostā* & *ȳndà bostā* \\
\downarrow & \downarrow \\
*sïnda bòssa* & *sïnda βòssa* \\
\downarrow & \downarrow \\
*in βòs* & \\
\downarrow & \\
*ir βòs* & \\
\downarrow & \\
\text{Old Irish: } /in βòs/ in bos(s) & \\
\downarrow & \\
\text{Mid.W } /i βòs/ y vos & /an βòs/ an bos \\
\downarrow & \\
\text{Mod.W. } /o vos/ y fòs & /ɔ vos/ an bhos \\
\end{array}
\]

also compare:

Breton: /ʌʁ voz/ ar voz

Scottish Gaelic: /ɔ vas/ a’ bhás

Despite similar origins and comparable phonetic changes, the mutations of the Brythonic and Goidelic branches do not always involve exact corresponding phonetic processes. For example, the lenition (i.e. *séimhiú* / *treiglad meddal*) caused by a vowel manifests itself as frictivization in Irish (with later developments), but as both frictivization and voicing in Welsh—applying to

¹ Proto-Celtic from MacBain, p. 30
originally voiced and voiceless consonants respectively. In the case of the LEN of /k/, Irish
fricativizes to /x/ and Welsh voices to /g/:

<table>
<thead>
<tr>
<th></th>
<th>Welsh</th>
<th>Irish</th>
</tr>
</thead>
<tbody>
<tr>
<td>indefinite:</td>
<td>definite:</td>
<td>indefinite:</td>
</tr>
<tr>
<td>cadair</td>
<td>y gadair</td>
<td>cathaoir</td>
</tr>
<tr>
<td>phonemic:</td>
<td>/kadɛɾ/</td>
<td>/ɾ ɾ ɾ/</td>
</tr>
<tr>
<td>phonological:</td>
<td>[kader]</td>
<td>[ɾ ɾ ɾ]</td>
</tr>
<tr>
<td>gloss:</td>
<td>‘chair’</td>
<td>‘the chair’</td>
</tr>
</tbody>
</table>

However, in the case of bos above, both Welsh and Irish turn the stop into a fricative.

As with Irish, mutation in Modern Welsh varies greatly between dialects and especially between the
literary language and the colloquial forms. In colloquial Modern Welsh, soft mutation extends
its application at the expense of the other mutations. Instead of the “correct” ym Mangor
[əm:ŋaŋo:d] ‘in Bangor’, a native speaker would be likely to produce yn Fangor [ən vango:d],
or even omit the mutation altogether yn Bangor [ən bango:d]. The spirant mutation, too, often
is ignored—such as after a [a] ‘and’ where the literary mam a thad [ma:m a θa:d] ‘mother and
father’ would be commonly pronounced mam a tad [ma:m a ta:d] in spoken Welsh.

However, positions of contrast cause this mutation to remain steadfast. As in Irish, the third person
pronouns share the same phonetic structure [i:], but cause different mutations. Such positions of
contrast cause the mutations to persist. For example, the Welsh ei [i:] ‘her’ causes the spirant
mutation, even in colloquial forms, for the mutation itself carries semantic information:

ei thad (hi) ³
ei død (e)
eu tad (nhw)

³ one can even see this internally in the words for ‘chair’—the Welsh has /d/ and the Irish /h/ (from /θ/), both
of which ultimately go back to a common /t/, as both derive from the Latin cathedra (MacBain, p. 75).
³ repeated/echoed pronouns not always necessary; see King, p. 81.
⁴ also commonly [nu:]
OUTLINE OF WELSH MUTATIONAL TRIGGERS: 5

IV.a. M driedd

Treiglad meddal (soft mutation, lenition, LEN), like the Irish séimhiú, historically occurred to a consonant between two vowels. Phonologically, this manifests itself as a weakening of the manner of articulation, but not always in the same manner as in Irish. In Welsh, this mutation involves the frictivization of voiced stops, including the bilabial nasal /m/, and the voicing of voiceless stops and liquids. 6 Already in the Middle Welsh period (12th–14th centuries), the voiced velar fricative [ɣ] completely disappeared and the nasal labio-dental fricative [μ] lost its nasalization, and thus lenited /b/ and /m/ became identical (LHB, p. 543).

<table>
<thead>
<tr>
<th>Treiglad Meddal</th>
<th>radical</th>
<th>lenited form</th>
</tr>
</thead>
<tbody>
<tr>
<td>voicing of voiceless stops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and liquids:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>b</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>d</td>
<td></td>
</tr>
<tr>
<td>k</td>
<td>g</td>
<td></td>
</tr>
<tr>
<td>ꞧ</td>
<td>ꞥ</td>
<td></td>
</tr>
<tr>
<td>ꞧ</td>
<td>ꞥ</td>
<td></td>
</tr>
<tr>
<td>ꞧ</td>
<td>ꞥ</td>
<td></td>
</tr>
</tbody>
</table>

frictivization of voiced stops

| b | ꞥ |
| d | ꞥ |
| g | ꞥ → Ø |
| m | ꞥ Mod. → ꞥ |

5 based on King, Modern Welsh, some examples taken ibid, others are my own.
6 See Appendix vii for more details, but phonologically there is no voice-voiceless differentiation in Welsh. Rather [± spread glottis], i.e. aspiration, differentiates ꞥ and ꞥ. In the underlying form, however, the difference is treated here as [± voice]. Thus /p/ becomes [pʰ] in its phonetic realization and /b/ becomes [p] / [b].
7 for a more detailed depiction of soft mutation including Welsh examples, see Appendix iii.
8 this distinction of voiced and voiceless ꞧ was not present in Middle Welsh (at least in any way determinable by the orthography) c.f Evans, A Grammar of Middle Welsh, p. 9. The orthographical representation of [fʰ] as ꞧ did not occur until the 16th century (LHB, p. 477).
Traditional treatments of Welsh grammar recognize two different types of mutation which apply to soft mutation: contact mutation and grammatical mutation. Specific words such as the definite article and prepositions trigger contact mutation. In grammatical mutation, grammaticalization has resulted in soft mutation fulfilling particular grammatical functions, such as the formation of adverbs, the marking of direct objects (or anything following the subject position, including semantic subjects see section VIII.a) and in inflected verbal forms in the colloquial language.  

**IV.a.1. CONTACT SOFT MUTATION**

Contact soft mutation occurs following:

- certain simple prepositions:
  
  *dros bont*  
  
  \[\text{\{pont\}}\]  
  
  \[\text{\{dros bont\}}\]  
  
  ‘over a bridge’

- the feminine singular definite article
  
  *y gadair*  
  
  \[\text{\{cadair\}}\]  
  
  \[\text{\{\text{o gader\}}\} \text{ ‘the chair’}\]

- but not with /ɬ/ or /rʰ/:
  
  *y llaw*  
  
  \[\text{\{\text{o lay\}}\} \text{ ‘the hand’}\]

- feminine singular nouns (to adjectives):
  
  *y llaw fawr*  
  
  \[\text{\{mawr\}}\]  
  
  \[\text{\{\text{o lay va\text{\text{yr\}}}\} \text{ ‘the big hand’}\]}

---

9 King, *Modern Welsh* p. 16

10 In Modern Welsh the mutation is seen as “blocked”, but historically they were lenited in the stage when the final vowel yet remained, but with the loss of the final syllables became voiceless after /n/ and /r/ in the new word final position, thus there appears on the surface to be no mutation after the definite article *yr* and the complement marker *yn*. (Evans, GMW, p. 20).
LEN can affect multiple adjectives - compare:

\[
y \, \text{ferch} \, \text{fechan} \, \text{dlos} \quad [\text{o} \, \text{ver} \chi \, \text{ver} \chi \text{an} \, \text{dlos}] \quad \text{‘the small pleasant girl’}
\]
\[
\{\text{fechan}, \, \text{tlws}\}
\]

with

\[
y \, \text{bachgen} \, \text{bychan} \, \text{tlws} \quad [\text{o} \, \text{bay} \chi \text{gen} \, \text{by} \chi \text{an} \, \text{tlws}] \quad \text{‘the small pleasant boy’}
\]
\[
\{\text{bychan}, \, \text{tlws}\}
\]

• certain possessive pronouns (SG2 & SG3.MASC):

\[
\text{ei} \, \text{gath e} \quad \{\text{cath}\} \quad [\text{i} \, \text{ga} : \theta \, \text{e}] \quad \text{‘his cat’}
\]
\[
\text{dy} \, \text{d} \acute{\text{y}} \, \text{di} \quad \{\text{ty}\} \quad [\text{d} \delta \, \text{di} : \text{di}:] \quad \text{‘your house’}
\]

• dyna ‘there is…’

\[
dyna \, \text{ddyyn} \quad \{\text{dyn}\} \quad [\text{d} \delta \text{a} \, \text{di} : \text{n}] \quad \text{‘there is a man’}
\]

• neu ‘or’

\[
\text{moron} \, \text{neu} \, \text{dywys} \quad \{\text{tywys}\} \quad [\text{moron} \, \text{ne} \delta \, \text{w} \delta \text{i}: \text{s}] \quad \text{‘carrots or corn’}
\]

• numbers (1 FEM, 2 MASC/FEM…)

\[
\text{un} \, \text{ferch} \quad \{\text{merch}\} \quad [\text{i} \text{n} \, \text{ver} \chi] \quad \text{‘one girl’}
\]
\[
\text{but un} \, \text{dyn} \quad [\text{i} \text{n} \, \text{di} : \text{n}] \quad \text{‘one man’}
\]
\[
\text{dwy} \, \text{ferch} \quad [\text{du}^{\text{w}}: \text{i} \, \text{ver} \chi] \quad \text{‘two girls’}
\]
\[
\text{dau} \, \text{ddyyn} \quad [\text{da} \text{i} \, \text{di} : \text{n}] \quad \text{‘two men’}
\]

• some prefixes and “prefixed adjectives”:

\[
\text{hen} \, \text{w} \acute{\text{lad}} \quad \{\text{gwlad}\} \quad [\text{he} \text{n} \, \text{w} \text{l} \text{a:d}] \quad \text{‘old country’}
\]
\[
\text{rhagf} \text{arn} \quad [\text{f} \text{agvarn}] \quad \text{‘prejudice’}
\]

(from \text{rhag-} ‘pre-‘ + \text{barn} ‘judgment’)

\[11\] also: \text{dyma, dacw, yma, yna}

\[12\] \text{hen} c.f. Irish \text{sean} [\text{ʃ} \text{æ:n}] ; as in \text{seanbhean} [\text{ʃ} \text{æ:nə}, \text{v} \text{ʃ} \text{æ:n}] ‘old woman’ (in \text{seantir} [\text{ʃ} \text{æ:n}, \text{ʃ} \text{ɪ:n}] ‘old country’

LEN is blocked because of the homorganic consonants /n/ and /t/ coming together. See section XII.
Conroy Mutations

III. Welsh - 29 -

- Compound nouns:

  gwreiddflewyn  [gyreiddvleu\*in]  ‘root-hair’
  (from gwreiddyn  ‘root’ +  blewyn  ‘hair’)

- The complement marker (connective particle) yn, triggering len to nouns and adjectives (but not to /l/ or /r/) only, but never to verbal nouns:

  • Noun:

    mae e’n gyfieithydd  {cyfieithydd}  [ma\ø  en go\ø\ø\ø\ø\ø]
    be.PRES SG3.M + PRT translator
    ‘he is a translator’

  • Adjective:

    mae’r dyn yn dost  {tost}  [ma\ø  di:n on dost]
    be.PRES + DEF man PRT sick
    ‘the man is sick’

  • - But no mutation on verbal nouns:

    mae hi’n bwrw glaw  [ma\ø  hi:n buru gla\ø]
    be.PRES SG3.F hitting/casting rain
    ‘it’s raining’

IV.a.2. GRAMMATICAL SOFT MUTATION

Grammatical soft mutation is triggered:

- After the subject on nouns, numerals, prefixed adjectives and verbal nouns (whether the subject is overtly present or not) ie. so-called “direct object mutation”\(^{14}\):

  (mi/fe) weles i draig  [(mi:ve) weles i: draig]  ‘I saw a dragon’ (colloquial) \{draig\}

  gwelais draig  [gwela\ø\ø  draig]  ‘I saw a dragon’ (literary)

  rho lyfr i mi  [\ø: lvr i: mi:]  ‘give (thou) me a book’\(^{15}\) \{lyfr\}

\(^{13}\) not *mae hi’n fwrw glaw  […]vuru…

\(^{14}\) see section VIII for further discussion

\(^{15}\) thought of as rho di…
Conroy Mutations

III. Welsh - 30 -

mae rhaid i’ch tad fynd [mæi ðɔːd iːχ taːd vɪnd] ‘your father must go’ 16 {mynd}

•adverbs (especially temporal)

\[dd\text{oe}\] [ðɔɪ] ‘yesterday’ {doe}
\[dd\text{au fîs yn ôl}\] [ðaʊ viːs ən oːl] ‘two months ago’ {dau}

•vocative

\[blant!\] [blant] ‘(oh) children!’ {plant}

•colloquially (optionally) on inflected verbs:

\[(mɪ/fe)\ gɔɬɛst ti\] [(mɪː/ve) gɔɬɛst tiː] ‘you (SG) lost’ {collest}
(literary collaist [kɔɬaɪst])
\[gɔɬɛst ti ddim\] [ɡɔɬɛst tiː dɪm] ‘you didn’t lose’
(literary \[ni chollaist\] [niː kɔɬaɪst])17
\[gɔɬɛst ti?\] [ɡɔɬɛst tiː] ‘did you lose?’
(literary: a gollaist [a ɡɔɬaɪst])

•following a word which disrupts the VSO pattern:

\[fe\ a\ alla\ i\ weld\ hefyd\ dd\text{arn o bapur}\] {darn}
\[prɪ\ be-able.\text{PRES.SG1}\ SG1\ see\ also\ piece\ of\ paper\]
[ve aːa iː weld hɛʊd ɔːr bapiːr] ‘I can also see a piece of paper’18

III.b. LLAES

Treiglad Llaes (spirant mutation, aspirate mutation) only affects the voiceless stops, which are spirantized. These spirants arise in origin from geminate consonants; see section V below on gemination for the historical phonological triggers.

16 even though eich tad ‘your father’ is not the grammatical subject (hi is, i.e. mæ frhaid i eich tad fynd — literally “it is necessary for your father (to) go”), but it is the semantic subject.
17 also ni chollaist (ti) ddim,
18 From King p. 19. hyfed ‘also’ inserted between the verb gweld and the object o bapur — basic sentence fe alla i weld darn o bapur [ve aːa iː weld darn oː bapiːr] ‘I can see a piece of paper’
Treiglad Llaes

radical | spirantized form
---|---
frictivization of
voiceless stops:
p | f \(\text{ph}\)
t | θ \(\text{th}\)
k | χ \(\text{ch}\)

no change:
ɬ | ɬ
r̊ | r̊
b | b
d | d
g | g
m | m
f | f
s | s
n | n
V | V

Y treiglad llaes, as previously mentioned, is largely ignored in colloquial speech, but here follows its common triggers in the standard literary language:

• a ‘and’:
  
cath a chi | {ci} | [ka:θ a χi:] | ‘a cat and a dog’
ci a cath | {cath} | [ki: a χa:θ] | ‘a dog and a cat’

• â ‘with’:
  
â chylllel | fara | {cylllell} | [a χɔlel vara]
with knife | (of.) bread
‘with a breadknife’

paid â poeni | {poeni} | [paɪd a foːni:] | ‘don’t (thou) worry’ 20

---

19 for a more detailed depiction of the spirant mutation including Welsh examples, see Appendix v.
Conroy Mutations

III. Welsh - 32 -

• *chwe(ch) ‘six’:
  
  \[\text{chwe phen} \rightarrow \{\text{pen}\}\rightarrow \chi\text{we fen}\] ‘six heads’

• *ei ‘her’:
  
  \[\text{ei chyllyll (hi)} \rightarrow \{i: \chi\text{o}l (hi:)\] ‘her knives’

• *gyda, ‘da ‘with’:
  
  \[\text{mae llygoden gyda chath} \rightarrow \{\text{maɬ lago:den (go)da \chi\text{a:0)}\] be:PRES mouse with cat
  
  ‘a cat has a mouse’

• *tri ‘three’ (MASC)
  
  \[\text{tri ddyn} \rightarrow \{\text{tri: di:n}\] ‘three men’

• *tua ‘about, towards’
  
  \[\text{tua Thŷ Crughyweldw} \rightarrow \{\text{tia ði: kri:ghəweləd\v}}] ‘towards Tŷ Crughyweldw’

Any of these could also be without the aspirate mutation; but in spoken Welsh it usually, but not always present, occurs with *ei ‘her’ because the mutation provides contrast.

**III.c. Trwynol**

Treiglad Trwynol (nasal mutation), like Irish *urú*, originates from a historical final nasal sound which was lost. Unlike Irish however, a single unified process characterizes this mutation—nasalization. The Welsh nasal mutation affects only the oral stops, which become nasals with the same place of articulation and voicing of the radical sound. Unlike Irish, vowels avoid modification.

---

20 colloquially: *paid poeni* [paːd poːniː]
21 This may also be due to the limited application of *treiglad trwynol*, which in Modern Welsh occurs after *fy* [və] ‘my’ (from */me*n/) and *yn* [ən] ‘in’. The latter already ends in a nasal and the former is colloquially pronounced [s] or [Ø] before consonants undergoing the nasal mutation and [ən] before vowels and unmutatable consonants such as /x/: for example, *fy chwaer i* [və xwaɾ iː] or [ən xwaɾ iː] ‘my sister’.
The nasal mutation has very few triggers and like the aspirate mutation native speakers often ignore it:

- **fy** (colloquially *yn, ø with nasal mutation only) ‘my’:
  - *fy nghi* (f)i {ci} [vø ʰiː] ‘my dog’
  - *nhad* {tad} [n̊ʰaːd] ‘my father ’ (colloquial)

- **yn** ‘in’ (final nasal assimilate with the (new) initial consonant):
  - *yn Nghymru* {Cymru} [n̊ʰɔmriː] ‘in Wales’
  - *yn Rhontypridd* [n̊ʰɔntpriːð] ‘in Pontypridd’
  - *yn Nulyn* {Dulyn} [ɔnliːn] ‘in Dublin’

---

22 for a more detailed depiction of the nasal mutation including Welsh examples, see Appendix iv.
some words (such as blwyddyn [blu’nîm] ‘year’ with the special plural form blynedd [blənəð]) used after numbers instead of the normal blynyddoedd / blynyddau [blənəðɔθ] / [ blənəðɛ]) related to time may undergo this mutation after the numbers 5-10:

(1) (dwy flynedd) [du²νi; vln̥n̥d] ‘two years’ (LEN)
(2) tair blynedd [tair blənəð] ‘three years’ (no mutation)
(3) pedair blynedd [peder blənəð] ‘four years’ (no mutation)
(4) pum mlynedd [pim mlənθ] ‘five years’
(5) chwe mlynedd [χwe mlənθ] ‘six years’
(6) saith mlynedd [səθ mlənθ] ‘seven years’
(7) wyth mlynedd [uθiθ mlənθ] ‘eight years’
(8) naw mlynedd [nəθ mlənθ] ‘nine years’
(9) deng mlynedd [dəŋ mlənθ] ‘ten years’ (‘ten’ normally deg [deg])

The negative prefix an- triggers nasal mutation consistently. The mutation is fixed and these words have become lexicalized.

ambosib [amhɔsib] ‘impossible’ (an + posib)

III.d. MIXED MUTATION

Grammatically, Welsh also has a so-called “mixed-mutation” which uses treiglad llaes when it can apply (/p, t, k/) and treiglad meddal in other instances.

MIXED MUTATION:

frictivization of
voiceless stops:

radical | mixed mutation form
---|---
p | f 〈ph〉
t | θ 〈th〉
k | χ 〈ch〉

(23) (chart adapted from King, p. 120)
fricativization of voiceless stops: 

| b | v ‹f› |
| d | ð ‹dd› |
| g | ŋ → Ø |
| m | μ Mod. → v ‹f› |

voicing of voiceless liquids: 

| l̊ | l ‹l› |
| r̊ | r ‹r› |

no change to /n/, fricatives or vowels:

| f | f ‹ff› |
| s | s |
| n | n |
| V | V |

Mostly employed in the literary language, the mixed mutation helps mark the negation of inflected verbs:

- \((ni)\) ches 24 \((ddim)\) \[\((n): χε:s i: (ðm)\] ‘I did not get’ (spirant mutation of ces)
- \((ni)\) fydd hi \((ddim)\) \[\((n): við hi: (ðm)\] ‘she will not be’ (soft mutation of bydd)

In colloquial Welsh, however, soft mutation usually characterizes the negation of all inflected verbs.

- ges i ddim \[ge:s i: (ðm)\] ‘I did not get’
- fydd hi ddim \[við hi: (ðm)\] ‘she will not be’

24 the most traditional form is ni chefais [ni: χεvaj] - \((ni)\) ches i ddim represents an intermediate form
“TOPICS” IN CELTIC CONSONANT MUTATIONS:

V. GEMINATION

Gemination (gem), the lengthening (“doubling”) of consonants, which only plays a small role in Goidelic in comparison with lenition and nasalization, corresponds in origin to the spirant mutation of Brythonic. Gemination occurred in pre-Old Irish (but evidence of gem already waning in the Old Irish period) to the initial consonant of a word when a closely connected word immediately preceding it originally ended in -s or post vocalic -t and -k (LHB, p. 634; the following Goidelic gemination examples adapted from LHB, p. 634-637.):

Primitive Irish *sindās rērās → Old Irish inna riara [ɪn̪ˠəɾʲəɾˠəː] ‘the wishes/demands/modulations’

Primitive Irish *uirit nekʰon → Old Irish fri nech [frʲi nʲ(ː)ɛx] ‘against anyone’

Old Irish orthography showed gemination inconsistently with double consonants. In an early stage the consonants were likely pronounced long, but these simplified into normal consonants; and were often written so even in Old Irish – inna ríara and fri nech. Before a vowel, this -s, had been lenited to /h/ and became transferred to the Anlaut of the following word.

*esi̯ās atīr → *esyāh aθīr → Old I. a athair [həθəɾˠ] → Mod. I. a hathair [ə hæː(ə)ɾʲ]

This however is not shown in Old Irish orthography, for as in late Latin, an initial ‹h› before a vowel represented a mere orthographical variant and its presence of absence does not indicate whether or not the word started with hV or V. In fact, typically, its presence orthographically signifies its nonexistence phonetically, while /h/ remains orthographically unrepresented when its functions as a phoneme:

hi n-Érinn [ɪn̺ʲəɾˠən̺ʲ] ‘in Ireland’
inna euchu [ɪn̺ʲə həɾˠʃxu] ‘the horses (ACC.PL)’

Old Irish gemination, nevertheless, would have still prefixed h- to vowels. Despite not being shown by Old Irish orthography, the pronunciation of this prefixed h- can be assured by Middle and Modern Irish forms. Moreover, Old Irish orthography also failed to consistently represent geminated consonants with double consonants. Additionally, the nasalization of /l/, /r/ and /n/ was often also shown orthographically with double consonants—Old Irish i nnim [ɪ nʲim] ‘in heaven’ <Primitive Irish *in neμih <Proto-Celtic *in nemisi (Stifter, p. 177).
In Welsh one refers to the **spirant mutation** which shares its origin with Old Irish **gemination**, although as seen from above, in Irish gemination ceases to affect consonants because geminates merely simplify and “disappear”. In Brythonic, on the other hand, geminated consonants did not all turn to the corresponding single consonants. Voiced geminates developed as in Irish, but in the case of voiceless stops, Brythonic turned them into voiceless fricatives in the same place of articulation:

\[
\begin{align*}
*kk & \rightarrow /\chi/ \\
*tt & \rightarrow /\theta/ \\
*pp & \rightarrow /f/
\end{align*}
\]

Gemination/spirant mutation of Welsh arises from Common Celtic final –s, -ns, -x, and –k which triggered the doubling of the initial consonant of the following word (LHB p. 636). Geminated voiceless stops developed into voiceless fricatives, while other geminated consonants became un-geminated. Hence **y treiglad llaes** only affects voiceless stops. Additionally, the nature of the original final consonant determines what occurs before a vowel. If it were originally –s or –ns, an h- may be prefixed to the next word. If However, unlike Irish, Modern Welsh h-insertion does not closely follow this historical situation. Here follow examples adapted from LHB (p. 634-638) showing the historical development of gemination after \(*es\j\'as / ei \text{‘her’}:

\[
\begin{align*}
*es\j\'as\ kattos & \rightarrow *i\ ccatt \rightarrow ei\ chath \quad \text{‘her cat’} \\
*es\j\'as\ brakkj\on & \rightarrow *i\ bbrech’ \rightarrow ei\ braich \quad \text{‘her arm’} \\
*es\j\'as\ ognos & \rightarrow *i\ hoyn \rightarrow ei\ hoen \quad \text{‘her lamb’}
\end{align*}
\]

This did not consistently apply after an original final trigger:

\[
\begin{align*}
*sindos\ kattos & \rightarrow *in(n)\ ccatt \rightarrow y\ cath \quad \text{‘the cat’}
\end{align*}
\]

Jackson’s unclear explanation of why gemination does not occur after the masculine definite article, where it would be expected because of the final –s (except in Breton in the case of /k/ only; see below), seems to have the final –s of the article developing to –Σ ³ which then combined with the initial half-long /k/ ² (represented as k(k) in LHB) of the noun to yield a full geminate (LHB p. 635):

\[
*\text{sindos kattos} \rightarrow \Sigma\text{ndo}\Sigma\ k(k)\text{atto}\Sigma \rightarrow \Sigma\text{ndo}\Sigma\ k(k)\text{a}0\Sigma \rightarrow \Sigma\text{ndo}\ k\text{k}a0\Sigma(\Sigma) \rightarrow *\text{in(n) kkatt}
\]

---

¹ Jackson uses Σ to denote some sound intermediate between /s/ and /h/ and speculates that it was “perhaps a strongly aspirate [ʃh]?” (LHB, p. 517).
² all initial consonants considered to be “half long”
³ Jackson gives the form Σ\text{ndo} kk\text{atta}(Σ), but this fails to explain why the initial kk- did not follow the same path as other geminate consonants. If this gemination took place after the period in which voiceless geminates
This gemination of half-long /k/ after -Σ must have taken place after voiceless geminates developed into spirants. He refers to it as a “special case” and offers no explanation as to why its development differs from that of other words terminating in –s such as *esjäš.

_Cath_ is now feminine in Modern Welsh and thus the article would cause soft mutation (*y gathi*).

However, in Breton, masculine singular and non-human masculine plural nouns beginning with /k-/ in Breton do mutate after the definite article, while all other masculine to not mutate (unless they are human nouns in the plural, then lenition occurs; see section VI). Perhaps the ordering of mutations differed dialectally or the same change did occur in Welsh but was later reversed by analogy. This special mutation operates in Breton after the definite article in singular masculine nouns, plural feminine nouns and non-human masculine plurals and curiously it only affects /k/. (in SG.MASC and PL.FEM this is what would be expected with the historical definite article ending in –s!) Thus (Breton from Press/ar Bihan, p.43):

- **kaz** [kaz] 'cat'
- **ar e’hazh** [ar xaz] 'the cat’ MASC.SG
- **ar e’hizhier** [ar xizjeř] 'the cats’ MASC.PL.non-human
- **kazetenn** [kazeten] ‘newspaper’
- **ar gazetenn** [ar gazeten] ‘the newspaper’ FEM.SG(LEN)
- **ar e’hazetennou** [ar xazentenu] ‘the newspapers’ FEM.PL

For more on Breton mutation see section VI.

Old Irish gemination triggered by (examples from GOI §241-243):

- definite article _inna_ / _na_ (MASC/FEM/NEUT accusative plural; FEM genitive singular; FEM/ NEUT nominative plural):
  - **inna-mmrainnachtai** [innˠoː'mːraθɛm̩n̩axtɛ] ‘of the treachery’
  - **inna-mmaccu** [innˠoː'mːaku] ‘the sons’ (ACC.PL)
  - **inna-lfé̃har** [innˠoː'fːəθɛɾˠ] ‘the dispensations’ (NOM.PL.NEUT)
  - **forsna-mmórchol** [fɔɾ'snˠoː'mːoːɾ'xolˠ] ‘on the great wickedness’

(duplicate consonants inconsistently written to indicate gemination, but likewise optionally to show “nasalization/eclipsis” (i.e. non-lenition) of /l/,/m/,/n/ and /r/)

- a ‘her’
  - **a-mmúntar** [a'mːuntarˠ] ‘her household’
  - **a argat** [a hargod] ‘her money’

developed into spirants, than the initial could have remained /k/, for the spirantization of voiceless geminates fule no longer actively applied.
• prepositions:
  - a ‘out of’
    -a-ppeccad \([a:p^\prime\ɛkɔð]\) ‘out of sin’ 4
  -co ‘to’
    -co-bbráth \([co^b:r^\prime a^\theta]\) ‘to Doomsday, forever’
  -la ‘with’
    -la mmaccu \([la^m:\ak]\) ‘with sons/boys’
  -fri ‘to, against’
    -fri mnech \([fri^\prime n^\prime :e\`x]\) ‘against anyone’

• certain verbal particles (if not a part of a leniting relative clause and containing no infixed pronoun):
  - ni-robe \([n\prime i^\prime r^\prime \o vo\`\v]\) ‘has not been’
  - ro-Iaad \([r^\prime o^\prime l^\prime \a \`\d]\) ‘has been put’

• na ‘nor’
  -n\’frithalim-se rucai na-mm\'ebuil
  NEG.expert.1SG,PRES,EMPH. shame nor-disgrace
  \([n\prime i^\prime r^\prime \theta \`\l m^\\prime \`\v \`\ui g\`i^n^\prime \a m^\:\`\l^\`\] ‘I do not expect shame nor disgrace’

In Modern Irish the reflex of gemination only affects vowels, which have \([h]\) prefixed to them. Consonants remain unaffected in these circumstances, but their non-lenition is significant. H-insertion occurs following 5:

•the 3rd singular feminine possessive pronoun:
  -a hathair \([\`\o^\`\h:(h)\`\v^\`]\) ‘her father’

•the MASC/FEM/NEUT “common” plural definite article na and the FEM genitive definite article na:
  - na héin \([n^\prime \o^\`\h e^\`\n^\`]\) ‘the birds’
  - na háite \([n^\prime \o^\`\h a^\`\t^\`\o]\) ‘of the place’

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4 Modern Irish \(\text{as peaca} \ [p^\prime a^\`\k]\)

5 (An Caithdeán Oifigiúil, p. 91-92)
• the negative particle \textit{ná} in negative commands:
  \[
  \text{ná}\text{ hoscail} \quad [\text{n̪ˠɑ:}\text{hoskəl̪}] \quad \text{‘don’t open (SG)’}
  \]

• certain prepositions/particles:
  \[
  \text{le }\text{húll} \quad [\text{l̪ʲə}\text{hυːl}] \quad \text{‘with an apple’}
  \]
  \[
  \text{go }\text{hálaíinn} \quad [\text{gə}\text{hahːlən}] \quad \text{‘beautiful(ly)’}
  \]
  \[
  \text{go }\text{húrd} \quad [\text{gə}\text{hurːd}] \quad \text{‘highly, beautifully’}
  \]
  \[
  \text{ó mhaidín }\text{go}\text{ hoíche} \quad [\text{oa}\:\text{wədən}\:\text{gə}\:\text{hiː(hə)}] \quad \text{‘from morning till night’}
  \]

• “counting”/independent number particle \textit{a} (also in Old Irish, but not shown):
  \[
  \text{a }\text{h-ocht} \quad [\text{ə hoxt}] \quad \text{‘eight’}
  \]
  \[
  \text{a }\text{háon déag} \quad [\text{ə hiːnəːg}] \quad \text{‘eleven’}
  \]

• certain copular forms (to pronouns only):
  \[
  \text{ní }\text{heə} \quad [\text{n̪ʲiː}\:\text{hæ}] \quad \text{‘it (NEUT) is not’}
  \]
  \[
  \text{cé }\text{hi} \quad [\text{ceː}\:\text{hiː}] \quad \text{‘who is she?’}
  \]
  but no /h/ added to nominals—
  \[
  \text{ní }\text{amadán }\text{é} \quad [\text{n̪ʲiː}\:\text{əmədən} e]\quad \text{‘he is not a fool’}
  \]

Internal Gemination:

Related to these geminate mutations of external sandhi are word-internal changes due to gemination. Here I show the development of internal consonants which parallel the changes of initial mutations. Proto-Celtic forms adapted from PCD.

• The following exemplify the intervocalic realization of Proto-Celtic /t/ in its lenited forms in Irish /θ/ and Welsh /d/:
  \[
  \begin{array}{l}
  \text{Proto-Celtic: } \ast \text{katsu-} \quad \text{‘battle, war, fight’} \\
  \text{Gaulish: } \text{catu-} \quad \text{(as in the name } \text{Catu-wulkos} \text{‘battlewolf’)} \\
  \text{Old Irish: } \text{cath} \quad [\text{kaθ}] \\
  \text{Modern Irish: } \text{cath} \quad [\text{kaː(h)}] \\
  \text{Welsh: } \text{cad} \quad [\text{kaːd}]
  \end{array}
  \]

The Proto-Celtic language, too, had internal geminate consonants. In accordance with initial gemination, Irish geminates in all positions un-geminated into simple consonants, while in Welsh, voiceless geminates underwent frictivization and the voiced ones developed the same as

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\textsuperscript{6} McCone (1996), p. 44
in Irish. According to Martinet (p. 200) voiced geminates word internally were rare in Brythonic, and in Goidelic they mainly arose due to the assimilation of two combining consonants— such as a nasal plus a voiceless stop (i.e. /*nt/ yielding /*dd/ – see below) or /d/ + /g/ yielding /*gg/ (ac(c)aldam [agaldəμ] ‘address(ing)’ from *ad-glādam; GOI §149.2).

• **Gemination** of /tt/: to /t/ in Goidelic and to /θ/ in Brythonic:
  
  Proto-Celtic: *katto-, *kattā- (MASC/FEM) ‘cat’  
  Gaulish: cattos  
  (Latin: catta)  
  Old Irish: cat(t) [kat]  
  Modern Irish: cat [kət]  
  Welsh: cath [kaθ]

• *-nt- developed into /*dd/ in Goidelic which then became /d/; no change in Brythonic:
  
  Proto-Celtic: *kantom ‘hundred’  
  Old Irish: cēt [ce:d]  
  Modern Irish: céad [ce:d]  
  Welsh: cant [kant]

• Finally, in both Irish and Welsh, simple voiced stops became voiced fricatives – in the case of /d/ → /ð/:

  Proto-Celtic: *budimā- ‘army, band, troop’  
  Old Irish: buiden [buðənˠ]  
  Modern Irish: buíon [bʰiː(ə)nˠ] (Classical Modern: buidhean)  
  Welsh: byddin [bɔðən]

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7 loan from Latin
VI. BRETON LENITION IN MASCULINE PLURAL HUMAN NOUNS

I have largely ignored Breton up to this point and will not go into detail concerning its (four) initial mutations. However, I will briefly look at lenition of masculine plural nouns after the definite article.

In Breton most masculine plural nouns which refer to humans undergo lenition after the definite article, while other masculine plural nouns do not mutate—except sometimes /k/, see page 38 above (Breton examples from Press / ar Bihan, p. 43):

- paotr \([pɒtʁ]\) ‘boy’
- ar baotred \([aʁ bɔtʁɛd]\) ‘the boys’
- martolod \([maʁ tolod]\) ‘sailor’
- ar vartoloded \([aʁ vaʁtoloded]\) ‘the sailors’
- tourist \([tʊʁist]\) ‘tourist’
- an doùristed \([aŋ doʁistɛd]\) ‘the tourists’

However, some exceptions do exist—plurals formed with –où:

- tad \([tad]\) ‘father’
- an tadoù \([aŋ tadu]\) ‘the fathers’
# an dadoù

This mutation does not affect non-human plurals:

- penn \([pɛ̃n]\) ‘head’
- ar pennoù \([aʁ pɛnu]\) ‘the pens’
# ar bënnou

- braog \([bʁɔɡ]\) ‘sea bass’
- ar braoged \([aʁ bʁɔɡd]\) ‘the sea bass(es) (PL)’
# ar vraoged

Adjectives, also, undergo lenition when following masculine human plural nouns (unless the noun ends in /l, m, n, r/ or a vowel, adjectives beginning with /k, t, p/ do not mutate) (Press / ar Bihan, p. 88-89):

---

1 or [vastoloded]
**Conroy Mutations**

**VI. Breton Lenition**

- **kigerien vat** [ki̞gɛɾjen ˠvat] ‘good butchers’
  - but:
    - **kizhier mat** [kizhɛʁ mat] ‘good cats’

In Old Irish, all masculine plural nouns lenited after the definite article and adjectives lenited after most masculine plural nouns (-o and –io stems; c.f. GOI §232.3):

- **ind fir thrúin** [in̪ˠdʲɪɾʲɪːn̪ˠ] ‘the strong men’
  - < /*sindi wiri trewni/
  - (from *fɛɾˠ ‘man’ and *tɾeːnˠ ‘strong’)

Only Breton and Cornish have preserved lenition of masculine plural nouns into modern times, although Willis notes that in Breton this mutation in literary (1986, p. 45). However, even in Modern Irish and Scottish Gaelic lenited forms of adjectives follow plural masculine nouns which end in a slender consonant, reflecting a now-lost final - i:

- **na fir thréana** [nˠo̞ fʲɛɾˠ ʰɾeːnˠ] ‘the strong men’ (Irish)
- **na fir threuna** [nˠo̞ fʲɛɾˠ hɾeːnˠ] ‘the brave/strong men’ (Scottish)
  - but
    - **na buachaillí tréana** [nˠo̞ buːxəːlʲiː tɾeːnˠ] ‘the strong boys’ (Irish)
    - **na buachaillean tréuna** [nˠo̞ buːxəːlʲənˠ tɾeːnˠ] ‘the strong/brave herdsmen’ (Scottish)

with out lenition.

---

2 or [ki̞gɛɾxjen ˠvat]

3 also thréin [θɛːnˠ]
VII. ANALOGICAL LEVELLING

Here I expand upon the example of analogical levelling from the introduction. Analogical levelling in Celtic languages can also trigger mutation, as referred to previously. For instance, in Old Irish the negative particle *ní* normally did not trigger LEN, but did elicit such a mutation when containing an “invisible” neuter infixed pronoun—compare:

\[
\begin{align*}
\text{ní ceil} & \quad [n^\text{i:}e^\text{cil}] \quad \text{‘he does not conceal’} \\
\text{ní cheil} & \quad [n^\text{i:}e^\text{cil}] \quad \text{‘he does not conceal it (neut.)’}
\end{align*}
\]

Whereas, in Modern Irish, *ní* triggers lenition by rule in the formation of the negative (there are no infixed pronouns in the modern language, nor a neuter gender):

\[
\begin{align*}
\text{ní cheileann sé} & \quad [n^\text{i:}e^\text{lien}^\text{e}] \quad \text{‘he will not conceal’} \\
\text{ní cheileann sé é} & \quad [n^\text{i:}e^\text{lien}^\text{e}] \quad \text{‘he will not conceal it’}
\end{align*}
\]

Such cases lack historical justification; the fused neuter pronoun form of *ní* which caused LEN began to replace the non-leniting (actually geminating) *ní* in contexts of simple negation. M’Caughey attributes this substitution to the fact that these active verb forms commonly occurred with a neuter infixed pronoun (p. 73). Pressure from other LEN-triggering pre-verbal elements likely helped the spread of mutation in this context. For example lenition occurs after the negative *nad* in so-called leniting relative clauses:

\[
\begin{align*}
\text{nad cheil} & \quad [n^\text{a}d^\text{e}^\text{cil}] \quad \text{‘which/whom he does not conceal’}
\end{align*}
\]

Additionally this assimilatory process was likely further aided by the lenition which followed the extended negative form *nicon* [n^\text{i:}kon^\text{v}^\text{v}] (especially common in Northern Old Irish\(^1\)), thus:

\[
\begin{align*}
\text{nicon cheil} & \quad [n^\text{i:}kon^\text{v}^\text{v}^\text{cil}] \quad \text{‘does not conceal’}
\end{align*}
\]

So, historically unjustified lenition spread to the simple declarative negative particle *ní* out of analogy with all of the other similar circumstances in which mutation occurred.\(^2\)

---

\(^1\) hence Scottish Gaelic *cha* [xa]. In Ulster Irish negative forms based on *cha* appear as well. Has *cha* been brought to Ulster through contact and immigration from Scotland or did it develop “naturally”? Their limited use in Ulster Irish as well as appearance before a habitual present tense to denote future events (i.e. *cha bhionn = ní bheidh*, c.f. Scottish *cha bhithidh*) points to Scottish influence. However, throughout Ireland *má bhíonn* is used in place of *#má bheidh* to refer to future events.

\(^2\) (McCone, EIV p. 174)
Indeed, by the Middle Irish period lenition spread so that it followed preverbal particles in general.

The following exampled from Classical Modern Irish exemplify fixed post-preverbal particle lenition:

<table>
<thead>
<tr>
<th>Old Irish</th>
<th>Classical Mod. Irish ³</th>
</tr>
</thead>
<tbody>
<tr>
<td>rogab</td>
<td>do gbabb</td>
</tr>
<tr>
<td>do-beir</td>
<td>do-bheir</td>
</tr>
<tr>
<td>do-gní</td>
<td>do-ní</td>
</tr>
</tbody>
</table>

The following poem from the Book of Leinster, as edited by Carney (Éigse 1 p. 248), shows usage of the neuter infixed pronoun after the negative in the main clause. Interestingly the lenition here was added by Carney (it does not seem to appear in the manuscript):

A Dhē tāc dam topur ndēr ⁴
do dīl mo c[h]inadh, ni c[h][̱]ēl;
ni toir[r][h][œ][h] talam cen braen,
i naem cēn anam cēn dēr.

[α ðːtug dāµ tobur⁵ ïːeːr⁵
do ðːl⁴ mo c[h]ād ïːlːːcːl⁵
ïːliː tœːr⁵əce⁵ cen⁵ vra[m⁵
ïːliː ñaµ⁵ cen⁵ anam cen⁵ d[eːr⁵]

Carney’s translation of this poem follows:

‘O God give me a well of tears to atone for my sins - I shall not hide it; land is not fruitful without moisture, I am not holy while I remain without a tear.’

The Book of Leinster does not consistently mark LEN orthographically, as evidenced by Carney’s frequent bracketed insertion of ‘h’. LEN is certain on chinadh because of the preceding mo’, but the negative particle ní does not necessarily cause lenition. Both ní chēl ‘I shall not hide it’ and ní cēl ‘I shall not hide’ make sense.

³ (SnaG, p. 408-9, 412, 415)
⁴ Italicized portions of the poem indicate scribal notations and the parenthetical h’s indicate lenition supplied by the editor; macrons designate long vowels not indicated in the manuscript.
Below are various third person singular forms of *ceilid* ‘conceals’ that show the role that mutations can play in Old Irish verbal morphology:

- **ceilid** [cɛl̪ʲɪð] ‘he conceals’
- **ceileas** [cɛl̪as] ‘which/whom he conceals’
- **ní·ceil** [n̺ʲiːcɛl̪] ‘he does not conceal’
- **nad·cheil** [n̪ˠaːd̪ʲɛl̪] ‘which/whom he does not conceal’
- **nín·ceil** [n̺ʲiːn̪ʲɛl̪] ‘he does not conceal it (NEUT)’
- **nín·ceil** [n̺ʲiːɲ̪ʲɛl̪] ‘he does not hide him/it (MASC)’
- **nad·ceil** [n̪ˠaːd̪ʲɛl̪] ‘which he does not conceal’

Furthermore, the negative relative particle also displays the role of analogy and levelling in the mutational systems of Celtic languages. In Old Irish *nád*- [n̠aːd̪] caused lenition, while the Modern Irish equivalent *nach* [n̠aːx] causes eclipsis (NAS):

<table>
<thead>
<tr>
<th>O.I.</th>
<th>Modern I</th>
<th>Meaning</th>
<th>Mutation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ná·chuirethar</td>
<td>nach geuireann</td>
<td>‘which does not put’</td>
<td>LEN</td>
</tr>
</tbody>
</table>

However, the discrepancy in forms results from more than a simple switch of mutation. Middle Irish used *nach* [n̠aːx] and *ná* [n̠aː] (derived from the negative imperative particle with the same form) indiscriminately, both of which had no effect on an initial consonant, but inserted /h/ before a vowel. By the time of Late Modern Irish period (after ca. 1600), the language had three forms of this negative relative particle, whose same form functioned for negative questions and the negative conjunct particle (SnaG, p. 460):

<table>
<thead>
<tr>
<th></th>
<th>Meaning</th>
<th>Mutation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ná</em></td>
<td>h-before a vowel</td>
<td>H</td>
</tr>
<tr>
<td><em>nach</em></td>
<td>h-before a vowel</td>
<td>H</td>
</tr>
<tr>
<td><em>nach</em></td>
<td>followed by eclipsis</td>
<td>N</td>
</tr>
</tbody>
</table>

The literary language at the time favoured *nach* H. Fláithrí Ó Maolchonaire (born 1560), from *Cluain na hOíche* in County Roscommon, writes *néach tůigeand* [n̠aːx tůiːɲ̪] ‘which does not understand’ (Modern Irish *nach tůigeann* [n̠aːx tůiːɲ̪]) and *náchuil* [n̠aːx fʷiːl̪] (Modern Irish *náchuil* [n̠aːx wɪːl̪]) in *Desiderius: Sgáthán an Chráibhaidh*, his ca. 1616 translation of the Spanish work *El Desseoso* (Ó Maolchonaire; CELT). However, his work also does contain

---

5 H indicates that the form prefixes /h/ before a vowel/causes gemination.

6 Ó Cléirigh, p. 34
Conroy Mutations VII. Analogical Levelling - 47 -

some examples of the modern usage of nach. For example, he writes nach ceurfe [ŋʰa:x ɡuθˈa] ‘which thou wilt not put’ (Modern Irish nach gceurfidh tú [ŋʰa:x ɡuθˈ(h)s tuː]).

The stem nach- is a variant form of nad originally used before infixed pronouns in Old Irish (my examples, but see Stifter, p. 187-8).

\[\begin{align*}
\text{hóre nachimcharai} & \quad [\text{oːɾˈe ŋʰaˈxomˈxarˈɪ}] \quad \text{‘because thou dost not love me’} \quad \text{LEN} \\
\text{hóre nachcarai(m)m} & \quad [\text{oːɾˈe ŋʰaˈxərəmˈ}] \quad \text{‘because I do not love him’} \quad \text{NAS} \\
\text{hóre nacha(e)cara(r)i(m)m} & \quad [\text{oːɾˈe ŋʰaˈxək:arəmˈ}] \quad \text{‘because I do not love her’} \quad \text{GEM} \\
\text{hóre nachcharam} & \quad [\text{oːɾˈe ŋʰaˈxəɾəm}] \quad \text{‘because we do not love it’} \quad \text{LEN} \\
\text{~ hóre nachidcharam} & \quad [\text{oːɾˈe ŋʰaˈxədˈxarəm}] \quad \text{LEN}
\end{align*}\]

In Middle Irish, this from nach- with the null leniting infixed neuter pronoun became a common replacement for nad- (GOI §863). This explains the form with /x/. As for the mutation, NAS in dependent form (required by nach) of irregular verbs became generalized (O’Rahilly (1932), p. 40), thus nach began to be analyzed as an NAS-triggering particle. Analogy with other verbal particles such as go (the positive conjunct particle) and an (the positive question particle) which both cause NAS likely contributed to the generalization of NAS in dependant verb froms.

Scottish Gaelic, which in general does not use the NAS inherited from Old/Middle Irish, does show generalization of NAS mutation in the dependant form of irregular verbs; e.g. thoir [hɔɾˈ] ‘give’ and na doir [nʰa dɔɾ] ‘do not give’ (standard na toir [na tʰɔɾ]) versus the Irish equivalents tabhair [tɔɾ] and ná tabhair [nʰa: tɔɾ]. See section IX.d. for more on NAS in Scottish Gaelic. Additionally, the form nach- with the null nasalizing infixed masculine pronoun (as in hóre nachcarai(m)m from above) most likely also influenced the latter form nach.

O’Rahilly ((1932), p. 39-44) traces the use of ecplipsis with nach through several stages, starting in the 16th century. First irregular verbs with initial /f/ and /t/ were eclipsed. This spread to all verbs beginning with /f/, /t/, /c/ and presumably the rare /p/ (mostly loan words) as evidenced by Carswell’s 1567 writings, e.g. nach duigeand [ŋʰaˈx ɗeɾən] ‘which does not understand’ and nach gcaidigheand [ŋʰaˈx ɡdˈiɾən] ‘which does not help’ (Ibid., p. 41). However, as exemplified by Ó Maolchonaire above, the process was by no means complete and forms

\[<cc>\] sometimes used to indicate the NAS of /k/; otherwise <gc>
without NAS persisted - such as the *nách tuigeand* mentioned above. By the end of the 17th century eclipsis after *nach* spread to the voiced stops and vowels as well and continues to do so in the language today.

However, while the Connacht, Ulster and standard versions of the language use *nach*, modern spoken Munster Irish employs *ná*¹ another one the late Modern Irish options:

<table>
<thead>
<tr>
<th>Munster</th>
<th>Other</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ná fuil</em></td>
<td><em>nach bhfuil</em></td>
<td>‘which/that/who is not’</td>
</tr>
<tr>
<td><em>ná tuigeann</em></td>
<td><em>nach dtuigeann</em></td>
<td>‘who understands’</td>
</tr>
</tbody>
</table>

‘is X not?’

‘doesn’t X understand?’
VIII. “DIRECT OBJECT MUTATION”

A traditional Welsh grammar such as Gareth King’s *Modern Welsh* states that *treiglad meddal* (soft mutation, lenition – c.f. section IV.a) occurs after the subject NP of a sentence (which has VSO order)—even if it features a covert subject pronoun (such as in imperatives): (p. 21-22; some examples adapted from King):

```
gwelest     ti       ddynes   {dynes}
see.SG2.PRET PRON.SG2  woman
[gwelest ti: ðanes]
‘you saw a woman’
```

```
gwelodd     y       ddynes  brydferth iawn gyda
see.SG3.PRET  DEF woman  beautiful very with
[Ilygaid gwyrdhion gwn {cwn}]
‘the very beautiful woman with green eyes saw dogs’
```

```
rho         ddywy   bunt   i   mi!   {dwy}
give.SG2.IMPER two   pound to PRON.SG1
[rho: ðoi bint i: mi:] ‘give me £2!’
```

King interprets as if the subject pronoun were overtly present:

```
rho         di       ddywy   bunt   i   mi!   {dwy}
give.SG2.IMPER PRON.SG2  two   pound to PRON.SG1
[rho: di: ðoi bint i: mi:] ‘give me £2!’
```

In this way soft mutation differentiates subject from object, for soft mutation occurs on the object after the subject NP of the sentence. Compare:

```
gwelodd draig   [gwelɔd draig]  ‘a dragon saw’
gwelodd hi ddraig  [gwelɔd hi: ddraig]  ‘she saw a dragon’
```

The modern literary register still features the possibility of null subjects inherited from Middle Welsh—a pro-drop language. In such an instance without an explicit subject, a lenited noun
directly following the inflected verb would signify that it functions as the direct object and not the subject of the VP; the (pronominal) subject, in this case hi ‘she’, is understood:

\[
gwelodd\ ddraig \quad [\text{gwelodo draig}] \quad \text{‘she saw a dragon’}
\]

However, this particular parameter setting has changed in the modern colloquial language and subjects are obligatory. We call the modern language a non-null subject language. Soft mutation, having no clear lexical trigger, but only a syntactic one appears to operate in these circumstances. Thus, the so-called “direct object” soft mutation seems to mark accusative case (of indefinite nouns—the definite article’s mutational features overrule any other ones); however, this mutational phenomenon features more complexity than simple case marking. Roberts (1997, 2005) argues this theory. Additionally, it remains important to note that only the first direct object which immediately follows the verb can receive the soft mutation, for this mutation does not spread, unlike len on multiple adjectives following feminine singular nouns. So not

\[
\#gwelwn\ ni\ lwynog,\ wiwerod\ a\ ddraig
\]

\[\text{see.pl1.fut} \quad \text{pl1 fox} \quad \text{squirrel.pl} \quad \text{and} \quad \text{dragon}\]

‘we will see a fox, squirrels and a dragon’

\{lwynog, gwiwerod, draig\}

but rather

\[
gwelwn\ ni\ lwynog,\ gwiwerod\ a\ draig
\]

\[\text{gwelu:n ni: luwmog gwi:werod a draig}\]

**VIII.a. Modern Welsh – Acc Case or XP Trigger?**

Sometimes soft mutation appears “unexpectedly” on elements other than direct objects, while at other times direct objects fail to receive soft mutation. For example, in ‘The Syntax of Welsh "Direct Object Mutation" Revisited’, Tallerman takes an example from Morgan’s *Y treigladau a’u cystrawen* and displays soft mutation of an “extraposed subject” - one that does not have its usual placement directly after the verb (p. 1760-61, example Ibid.):

\[
\text{mae ‘n dy arwain } [\text{gwmwl niwl a cholofn dán}] \quad \{\text{cwmwl}\}
\]

\[\text{there.is part poss.sg guiding cloud mist and column fire}\]

\[\text{ma’n do arwân gumul niul a χolovn dán}\]

‘a cloud of mist and a column of fire is guiding you’

literally: ‘there.is to your guiding, a cloud of mist and a column of fire’
Conroy Mutations

VIII. “Direct Object Mutation” - 51 -

(the subject is cwmwl niwl a cholofn dán [kumol niul a χolɔvn duːn])

The above exhibits a grammatical, but very literary language usage. Mutation occurs when a constituent such as yn dy arwain interrupts the normal VSO word order. In normal colloquial Welsh the subject would directly follow the verb and would not have soft mutation:

mae [cwmwl niwl a cholofn dán] yn dy arwain
[maː kumol niul a χolɔvn duːn an da arwaːn]
‘a cloud of mist and a column of fire is guiding you’

By showing this she calls into question the notion that accusative case governed by the verb causes the mutation, but rather posits that XPs (such as the subject NPs or the VP yn dy arwain in this example) actually trigger the soft mutation — not abstract accusative case. I will further explore this XP Trigger Hypothesis below.

Some problems with the soft mutation of direct objects as a way to mark accusative case include sentence pairs such as:

<table>
<thead>
<tr>
<th>gwelas</th>
<th>i ddraig</th>
<th>vs.</th>
<th>(ni) welas</th>
<th>i ddim draig</th>
</tr>
</thead>
<tbody>
<tr>
<td>see.SG1.PST</td>
<td>SG1 dragon</td>
<td>NEG</td>
<td>see.SG1.PST</td>
<td>SG1 NEG dragon</td>
</tr>
<tr>
<td>[ewelas i: draig]</td>
<td></td>
<td>[(ni:) welas i: ɒm draig]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘I saw a dragon’</td>
<td></td>
<td>‘I did not see a dragon’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Here the negative particle ddim (from dim ‘nothing’ — originally ‘anything’), co-occurring with an often covert pre-verbal ni, takes the soft mutation and the direct object retains its radical. In the periphrastic present tense construction using bod ‘to be’ and the verbal noun, the direct object is likewise unmuted:

<table>
<thead>
<tr>
<th>dw</th>
<th>i’n</th>
<th>gweld draig / #ddraig</th>
</tr>
</thead>
<tbody>
<tr>
<td>be.SG1.PRES</td>
<td>SG1 + PARTICLE</td>
<td>seeing dragon</td>
</tr>
<tr>
<td>[duwiːn gweld draig]</td>
<td></td>
<td>‘I see/am seeing a dragon’</td>
</tr>
</tbody>
</table>

Draig in both of these examples certainly does act as the grammatical object and would logically receive accusative case. How then could we explain the non-mutation of the direct object draig in welas i ddim draig and dw i’n gweld draig? In the case of both the negative and verbal noun, the non-mutation could be explained by positing that an abstract genitive case must
follow nominal elements such as *dim* and the verbal noun *gweld*. Irish operates this way (although erosion of the genitive commonly takes place dialectically):

\[
\text{tá sé ag tógáil an tí}
\]

\[
tāː ʃeː (e) toːɡəːl aː tɪː \]

‘he is building the house’  
(NOM *teach*  ‘house’)

Welsh has no evidence of a distinctive genitive (or accusative) form on the surface—the case terminations fell out of use early in Brythonic (see note 5 on p. 6), but the usage of possessive pronouns to indicate the object of a verbal noun does provide further support for an abstract genitive case in Welsh:

\[
dw i'n ei weld e \{gweld\}
\]

\[
duwiːn i: weld ɛ\]

‘I see/am seeing it/him’  
(literatly: “I am to his seeing”)

Non-lenition hypothetically could mark this abstract genitive case and therefore explain the lack of mutation after verbal nouns and *ddim*. However, Tallerman rejects the role of abstract case in triggering mutation on nominal elements. Rather, she argues that “a constituent bears SM [soft mutation] when it is immediately preceded by some phrasal constituent, XP” (p. 1752). Essentially, the non-finite verbal nouns (i.e. verbal nouns) are not considered phrasal constituents and therefore do not trigger mutation. She supports this with examples such as (adapted from Tallerman p. 1754; originally taken from Thorne (1993)):

\[
\ldots yn rhagweld yn 1721 \text{dranc yr iaith Gymraeg}
\]

\[
\text{an pəagweld on miːl səθ daːn dɾɑŋk ɔɾ jəθ gəmrɑŋ}
\]

‘…foreseeing in 1721 the death of the Welsh language’

This excerpt displays soft mutation of the nominal object of a verbal noun, which the temporal adjunct prepositional phrase *yn 1721* precedes. Were abstract case the cause of soft mutation, then ‘death’ should appear in its unmutated form *tranc* and not *dranc* because, according to the argument above, it would have genitive case which does not feature soft mutation. Hence, she proposes that the interposed PP triggers the soft mutation. Predicate-type sentences, whose the
subject has LEN if something else intervenes between it and the verb, provide further support for the XP Trigger Hypothesis:

\[
mae \text{ yn } y \text{ castell } draig \\
\text{there is in DEF castle dragon}
\]

[maɪ̯ə kastəl draɪ̯g]

‘There’s a dragon in the castle’

In the above sentence the intervening PP \(yn y~\text{castell}\) displaces the subject \(draig\) from its normal position after the verb and for that reason it becomes mutated. \(Draig\) here has no reason to receive accusative case. Tallerman attributes the mutation to the XP that intervenes between the verb and the subject. The normal word order for this would be:

\[
mae \text{ draig yn } y \text{ castell} \\
\text{there is dragon in DEF castle}
\]

[maɪ̯ dræɪ̯g ən ə kastəl]

‘There’s a dragon in the castle’

Next we will look at Middle Welsh and Old Irish data, after which we will attempt a diachronic explanation to this mutational phenomenon by analyzing the underlying representations of Proto-Celtic Insular verbs. The debate between case and XP trigger does not concern me here, for I am exploring the mutation from historical phonological grounds—the original underlying trigger for initial consonant mutations. Middle Welsh grammarians such as Evens refer to subject and object mutation and not case or XP triggers.

**VIII.b. Middle Welsh Variation**

In the complex Welsh mutational system, from Old to Modern, much analogical levelling must have taken place. In Middle Welsh the systemic mutation of objects and non-mutation of subjects (with the exceptions noted above) had not yet solidified, and thus samples can exhibit variation, with the lenition of some subjects and unmutated form of direct objects without the soft mutation which often characterizes them in Modern Welsh (Evans, GMW § 21; Middle Welsh examples from the same).

Middle Welsh displays subject-lenition particularly following third singular imperfect and pluperfect verbal forms:
ny uynhei Gaswallawn y lad ynteu

[ny vənheɪ ɬəsəlɑrəŋ ə lað ənteɬ]
‘Caswallawn did not wish to slay him’

ny angassei Uendigeiturun eiryoed ymywn ty
NEG contain.SG3.PLPF Bendigeidfran ever in.a house

[ny anəseɬ ɬəndigeidvɬən eɬɬɬoɬ əmɨŋ ti]
‘Bendigeidfran had never been contained in a house’

Less frequently, LEN can be observed after third person singular preterite and imperative forms:

a fan welas Uranwen y mab
and when see.SG3.PRET. Branwen POSS.SG3.F son

[a fan wɛlaɬ vɾaɬn i: məɬ]
‘and when Branwen saw her son’

gwnaet bawp velly {pawp}
do.SG3.IMPER all likewise

[gwnaɬi ɬəbɬ velɨɬ]
‘let all do likewise’

An additional common trigger of LEN can be found in early Welsh poetry when a plural nominal subject follows a plural verb form rather than a singular verb form (which had become the standard in Modern Welsh):

yn Aber Cuawc yt ganant gogeu {cogeu}
in Aber Cuawc AFFIRM.PART sing.PL3.PRES cuckoo.PL

[ən aber kəuɬ gəɬt ganant gogeu]
‘in Aber Cuawg cuckoos sing’

ymgetwynt Gymry {Cymry}
see to(R).PL3.PRES Welshman.PL

[əmgedɬiɬt ɬəmɪɾt]
‘the Welsh will see to it’
“Direct Object Mutation”

atchwelwynt Wydyl {Gwydyl}
return.PL.3.PRES Irishman.PL
[adywelgwint yðil]
‘the Irish will return’

Subjects also sometimes undergo LEN when separated from the verb (as in Modern Welsh with an intervening XP):

\[
\text{y mae yno \{wr du\} \{gwr\}}
\]

AFFIRM.PART there.is there man black

[ə maí ño ut du]
‘there is there a black man’

but not consistently:

dybyd Gymry gwarth \{gwarth\} no LEN
come.SG.3.PRES Welshman.PL shame

[ðəbið gamri gwarθ]
‘shame will come to the Welsh’

---

1 Middle Welsh had no distinct future tense. The present indicative of main verbs denoted verbal time in the simple present, “gnomic” (universal) present, consuetudinal (habitual) present, historical (narrative, “dramatic”) present and in the future. The present of verb bot [bod] ‘to be’ could also signify action continuing up until the present (GMW §119). Examples Ibid.

•simple:
  gwir a dyweddy
  ‘thou speakest true’

•gnomic (no definitive time reference)
  dyn a wyl y brechewyn yn llygat arall ac ny wyl y trawst yn y lygat e hun
  ‘man sees the speck in another’s eye, but does not see the beam in his own eye’

•historical
  nyt kynt yd yskynn ef ar y uarch, noc yd a hitheu hebdaw ef
  ‘no sooner had he mounted his horse, than she passed him by’

•consuetudinal
  ef a wyl pawp o’r a del y mewn, ac nys gwyl neb ef
  ‘he sees everyone who enters, and no one sees him’

•future
  minheu a baraf idaw ef uynet y sseghi y bwyt yn y got
  ‘I will make him go and tread down the food in the bag’

•bot: past action continuing up to present
  yr hynny hyt hediw yd wyf i yma
  ‘from that day to this I have been here’
In Middle Welsh LEN of the direct object of a verb usually occurs, especially when it is detached from the verb (i.e. by the subject):

\[
y \quad \text{kynhelis} \quad \text{Bendigeiduran} \quad \text{Uranwen} \\
\text{AFFIRM.PART} \quad \text{support.SG.PRET} \quad \text{Bendigeidran} \quad \text{Branwen}
\]

[ɔ kənheˈliʃ bəndiɡəɪdrən vɾanwen]

‘Bendigeidfran supported Branwen’

However, the direct object sometimes keeps its unmutated initial consonant—in particular after the third person singular present indicative, third person singular present subjunctive and third person preterit:

\[
ef \quad a \quad \text{geif} \quad \text{march} \quad \text{iach} \\
\text{PRON.SG.M} \quad \text{REL.PART get.SG.PRES} \quad \text{horse} \quad \text{healthy}
\]

[ev a ɡəiʃ mɑɾɨ jɑɨ]

‘he shall have a sound horse’

rather than the anticipated

\[
ef \ a \ \text{geif} \ \text{march} \ \text{iach} \ \{\text{march}\} \\
[ev a ɡəiʃ ˈvɑɾɪ jɑɨ]
\]

2

As in Modern Welsh, lenition does not usually follow impersonal forms:

Mod.Welsh \[\text{gwelwyd draig} \] ‘a dragon was seen’

\#\text{gwelwyd }d\text{draig}

Mid. Welsh \[\text{gwelat dreic} \] ‘he would have a dragon’

\#\text{gwelad }d\text{reig}

But in can sometimes in Middle Welsh (never in Modern):

\[
\text{pan} \quad \text{dreithir} \quad \text{draethawd} \quad \{\text{treathawd}\} \\
\text{when} \quad \text{sing.IMPERS.PRES} \quad \text{song}
\]

[pan ˈdɾəɨθiɾ ˈdɾəəθəuɨd]

‘when a song is sung’

---

2 *caffa(e)l, cahel, cael* is an irregular verb, and thus *may* have had different endings in British and thus not mutate in the anticipated way.
Lenition of the “object of destination” occurred following verbs of motion:\(^3\)

\[
\begin{align*}
gwy & \quad a \quad aeth \\
\text{rel.pl} & \quad \text{go} \quad \text{past} \\
\text{gatraeth} & \quad \text{catraeth} \\
\text{[guir a ajg gatraj0]} & \\
\text{‘the men/warriors went to Catraeth’ (from Y Gododdin)}
\end{align*}
\]

Since older forms of Welsh feature pro-drop and Primitive British and Common Celtic likely did as well, direct objects would have come directly after an inflected verbal form frequently—whenever the subjects were covertly “pronominal”. It is likely that a former phonological feature of some inflected verbs triggered the mutation of the next word in the phrase (viz. a vocalic ending which would trigger LEN on the word which follows it). The evidence from Middle Welsh above shows that verbs triggered mutation on subjects and nouns irregularly. N.B. – subject LEN cannot occur after verbs not in third person because any following noun would necessarily be an object. Presumably, a verb originally only triggered LEN if it terminated in a vowel, but after the loss of final syllables the once allophonic distinctions of LEN vs. non-LEN blurred and blended together because the trigger was lost. Eventually, grammaticalization could have influenced the system so that subjects keep the radical and objects mutate have soft mutation. Of course the issues of the exact trigger discussed above remain relevant and the original trigger in Brythonic and Middle Welsh may not be the same as in Modern Welsh, for analogy developed in originally phonemically conditioned system into one ruled by morphology and syntax.

Interestingly L&P notes that many of the Middle Welsh rules for lenition of the subject (and object) persisted until the end of the 16\(^{th}\) century (well into the Modern Welsh period) (§ 237 note 4). Willis ((1986), p. 68), citing Evans (1909) notes that subjects could lenite following certain verb forms until the 18\(^{th}\) century. The Modern language, however, never lenites subjects directly following verb forms, but of course LEN may be triggered, buy something else, such as the definite article.

\(^3\) (c.f. “fixed” soft mutation of adverbs in Modern Welsh: gartref [gartrev] ‘at home’ from cartref[kartrev] ‘home’ —nouns used adverbially usually have treiglad meddal)
VIII. “Direct Object Mutation”

VIII.c. OLD IRISH SUPPORTIVE EVIDENCE

Turning to the Goidelic branch, Old Irish provides support to the Middle Welsh evidence that subjects, objects and more could be mutated following finite verb forms. Thurneysen states that, “in later sources…lenition is also found, though not consistently, after any verb, whether the following word be object, subject or attributive” (GOI §233). Examples Ibid.:

-object LEN:

\[\text{dorignius} \quad \text{chomgnimu}\]
\[\text{do.SG.AUGM.PRET} \quad \text{joint-deed.PL.ACC}\]
\[\text{[do'rɪɣn'us xoʊn'hiːːu]}\]
\[\text{‘I have just done joint deeds’}\]

\[\text{contóat} \quad \text{chucai}\]
\[\text{turn.PL.PRET.REL} \quad \text{to.PRON.SG.3.M}\]
\[\text{[kon'doad xugi]}\]
\[\text{‘who turned to him’}\]

-subject LEN:

\[\text{fúachimm} \quad \text{chéin}\]
\[\text{point.SG1.PRES} \quad \text{self.SG1}\]
\[\text{[fu:axemʲ čeːnʲ]}\]
\[\text{‘I myself point’}\]

The subject occasionally also undergoes LEN following the predicate (GOI §233.2):

\[\text{ni} \quad \text{gnáth} \quad \text{chomnusidigud}\]
\[\text{be.NEG.3SG} \quad \text{usual} \quad \text{composition}\]
\[\text{[ɲiː gnaːθ xoʊmsuðjuðuð]}\]
\[\text{‘composition is not usual’}\]

\[\text{gním} \quad \text{dom-sa} \quad \text{thindnacol}\]
\[\text{action} \quad \text{to.SG1-emph} \quad \text{bestowing}\]
\[\text{[gn̺ʲim doʊsə θənʲdn'acol]}\]
\[\text{‘transmitting is action for me’}\]

GOI §233 notes that, “According to later bardic teaching, the object after the verb may be lenited or not optionally…” The traditional Irish comardad [ko̞maɾdað] ‘rhyme’ system may have contributed to this practice of optional mutation and non-mutation. In order for consonants
Conroy Mutations

VIII. “Direct Object Mutation” - 59 -

to rhyme in classical Irish metrics they must agree in class and quality (palatalized or non-palatalized). These classes consisted of sounds sharing certain characteristics. Here are the six classes according to Stifter (p. 302-303) and Knott (p. 5) – note that the fricatives and lenited liquids all belong to separate classes than their unlenited counterparts:

<table>
<thead>
<tr>
<th>Class</th>
<th>Medieval Irish name</th>
<th>Phonetic characteristics</th>
<th>Rhyming phonemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>na trí chomnusí chruidhe</td>
<td>voiced stops</td>
<td>/b/, /d/, /g/</td>
</tr>
<tr>
<td>II</td>
<td>na trí chomnusí bhogha</td>
<td>voiceless stops</td>
<td>/p/, /t/, /k/</td>
</tr>
<tr>
<td>III</td>
<td>na trí chomnusí gharbh</td>
<td>voiceless fricatives</td>
<td>/θ/, /ð/, /x/</td>
</tr>
<tr>
<td>IV</td>
<td>na seacht gcomnusí éadroma</td>
<td>voiced fricatives &amp; lenited liquids</td>
<td>/v/, /ð/, /ɣ/ /l/, /ɾ/, /n/, /ŋ/</td>
</tr>
<tr>
<td>V</td>
<td>na cúig chomnusí theanna</td>
<td>unlenited liquids</td>
<td>/L/, /R/, /N/, /ŋ/, /m/</td>
</tr>
<tr>
<td>VI</td>
<td>comnusí aímid nach cóir a modh ar bioth gan .s. cile na haghaidh</td>
<td>/s/</td>
<td>/s/</td>
</tr>
</tbody>
</table>

The *filid* [ˈfl̠ɪl̠ɪd̠] ‘poets’ could have strategically chosen to apply mutation to objects following verbs depending on the other words with which they needed to rhyme. Free mutational variation may have simply functioned as a tool of artistic language and accordingly may not have operated as a meaningful feature of the colloquial language at the time.

This type of Old Irish lenitín became generalized into fixed *LEN* of adverbs, preposition, etc. in Modern Irish:

<table>
<thead>
<tr>
<th>Old Irish</th>
<th>Modern (Conamara) Irish</th>
<th>Gloss/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>fri</td>
<td>[fɾi]</td>
<td>ri [ɾi] (Classical Mod. Irish) ‘towards, against’ (Ø is the lenited form of /f/)</td>
</tr>
<tr>
<td>dam</td>
<td>[dʌμ]</td>
<td>dhom [ɣom] ‘to/for me’</td>
</tr>
<tr>
<td>duit</td>
<td>[dʊt̠]</td>
<td>dhuit [ɣɪt̠] ‘to/for thee’</td>
</tr>
<tr>
<td>do</td>
<td>[dʊ]</td>
<td>do [ɡʊ] (likely &lt;[ɣʊ]) ‘to, for’</td>
</tr>
<tr>
<td>cuccai</td>
<td>[kʊɡɪ]</td>
<td>chuige [χʊɡ] ‘(to)wards) him’</td>
</tr>
<tr>
<td>tall</td>
<td>[təl̠]</td>
<td>thall [ɬʊl̠] ‘yonder’</td>
</tr>
<tr>
<td>tiar</td>
<td>[tiəɾ]</td>
<td>thiar [ʃɪəɾ] ‘west’</td>
</tr>
<tr>
<td>tair</td>
<td>[təɾ]</td>
<td>thoir [ɦɛɾ] ‘east’</td>
</tr>
<tr>
<td>tías</td>
<td>[tʊas]</td>
<td>thuas [θʊas] ‘above’</td>
</tr>
</tbody>
</table>
***N.B. Thurneysen (§ 6) remarks on frequent scribal spelling errors in the Milan glosses (from which the examples with *chomgnímu* and *chucai* were taken) and errors in regards to ⟨c⟩ for [x] and ⟨ch⟩ for [k] would affect the interpretation of this phenomenon. Lenition (of even the voiceless stops) appears to have been inconsistently marked orthographically in even the *topur ndéir* poem from the Book of Leinster (see above, p. 45). However, seeing as Thurneysen does not mention this inconsistency in relation to LEN after verbal forms, there must be enough evidence from other more precise orthographic sources.

These trends coincide with the Welsh data and suggest that the now-lost final syllable of the verbs originally triggered the mutation still found on Welsh direct objects. However, we must also take into consideration that the mutation does often spread by analogy.

**VIII.d. Evidence from reconstructed Proto-Celtic verbs**

Could we consider historic verbal endings terminating in a vowel the cause of this mutation, in an analogous manner to the way in which historic vowels triggered mutation in the other cases we examined? To begin, let’s consider a couple of different reconstructions on what the Proto-Insular Celtic verb endings for –a stem verbs in the present indicative may have looked like:

<table>
<thead>
<tr>
<th></th>
<th>Stifter</th>
<th></th>
<th>Kortlandt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>absolute</td>
<td>conjunct</td>
<td>absolute</td>
</tr>
<tr>
<td>1sg</td>
<td>-āmi</td>
<td>-ām</td>
<td>-āmis</td>
</tr>
<tr>
<td>2sg</td>
<td>-āsi</td>
<td>-ās</td>
<td>-āieis</td>
</tr>
<tr>
<td>3sg</td>
<td>-āti</td>
<td>-āt</td>
<td>-āitis</td>
</tr>
<tr>
<td>1pl</td>
<td>-āmosi</td>
<td>-āmos</td>
<td>-āiomosis</td>
</tr>
<tr>
<td>2pl</td>
<td>-ātesi</td>
<td>-ātes</td>
<td>-āieteses</td>
</tr>
<tr>
<td>3pl</td>
<td>-anti</td>
<td>-ant</td>
<td>-āiontes</td>
</tr>
</tbody>
</table>

Stifter: from *Sengoídelc*, p. 67.

Kortlandt: from *Italo-Celtic origins and prehistoric development of the Irish language*, p. 159-160.
Could these two different reconstructions represent different stages of “Proto-Celtic” or would acceptance of one mean rejection of the other? If Stifter’s reconstruction is right, and this were still the verbal system when lenition first occurred phonemically, then this could explain why objects and subjects were lenited after verb forms. In the absolute conjugation all forms in this particular tense end in a vocalic element, and thus lenition may have spread to the next word—like it did after the definite article, nouns and prepositions, etc.:

/pättāti⁴ kʷrannon/ → /ässati krrannan/ → /äsaθi xraNan/ → /äsaθʲ xraN/ → *āsaiđ crrann

which would later, by analogy with other forms yield the attested Old Irish form:

āsaiđ crann  
[a:saθ kɾαŋ³³]  ‘a tree grows’

A likely candidate in providing the analogy would be the corresponding negative:

/nīspättāt kʷrannon/ → /nīssässat krrannan/ → /nīhαsa kraNan/ → /nīhαsa kraN/

which yields the Old Irish:

nīrása crann  
[n̺iː hα:s kɾαŋ³³]  ‘a tree doesn’t grow’

Primitive Ogam (or Ogham) Irish inscriptions, being funerary and boundary markings, contain no verbs⁵, and the Ogam alphabet does not differentiate between mutated and non-mutated sounds, for at that time they were still allomorphs conditioned by phonological circumstances. Additionally the 20-25 letter alphabet adapted from Latin⁶ could never adequately represent the phonemic inventory of the language. Oftentimes consonants appear doubled in Ogam inscriptions, oftentimes where a lenited consonant should be. Pederson suggested that it may have been a mark of lenition (Carney (1979), p. 419). So, lenition could have begun on nouns which followed verbal forms ending in a vowel and then later spread to following other historically unjustified forms as well. Old Irish eventually disregarded any lenition of the first indefinite noun in NPs directly following a finite verb form, but Welsh could have

---

⁴ In his Indogermanisches etymologisches Wörterbuch Pokorny attributes ās(a)id as a possible Old Irish reflex of the PIE root *pāt ‘to feed, to nourish , to pasture’ (‘füttern, nähren, weiden’) combined with a -t- infix (p. 787).

⁵ A typical Ogam inscription resembles QRIMITIR RON(A)NN MAQ COMOGANN ‘of the priest of Rónán, the son of Comgán’ (from Mt. Brandon in County Kerry). According to Stifter, p.12 this exemplifies later Primitive Irish and would have been something like *QREMITERI RONAGNI MAQI COMAGAGNI when taken back before certain sound changes and the apocope of final syllables. In classical Old Irish the phrase would have developed to cruimthir Rónáin maicc Comgán. This inscription is from Mount Bandon in county Kerry.

⁶ see Appendix viii
morphologized the originally phonologically conditioned process to help distinguish between subject and object—since British lost case distinctions very early in its attested history.

Since very early Welsh still shows some lingering signs of an absolute/conjunct system similar to Old Irish (Brythonic discarded this distinction very early), we could posit a similar explanation to explain mutation following Welsh verbs—including the so-called “direct object mutation”. Interestingly, according to Evens (§129.d), almost all Welsh verbal forms derive from the absolute forms of Insular Celtic, but conjunct endings won out in the 3rd singular.

**Absolute vs. Conjunct in Middle Welsh**:  
- **pereid** vs. **para**:

```
  pereid  y  rycheu,
  last.SG3.PRES ABS DEF Furrow.PL
```

```
  ny  phara  a’e  goreu
  NEG  last.SG3.PRES CONJ AFFIRM.REL.PART. + POSS.PL3  have-made.SG3.PRET
```

[pereid ə rɛ̆cə ni fara a’i goreu]

‘the furrows last, he who made them lasts not’

- **tyuid** vs. **tyf**:

```
tyuid  mabon,  ny  thyf
  grow.SG3.PRES ABS infant  NEG  grow.SG3.PRES CONJ
```

```
y  gadachan
  poss.SG3.M  swaddling-clothes
```

[tyvið mabon ni ðiv i gadaçan]

‘an infant grows, his swaddling cloths do not’

Here the conjunct forms *para* and *tyf* (affected by the spirant mutation after the negative *ny*) exhibit the possibility of a vocalic or Ø ending just like Old Irish, (viz. ·móra and ·beir the conjunct forms of *móraid* ‘magnify, glorify’ and *beirid* ‘carry, bear’ respectively). In Middle Welsh the normal present/future form of the verb had a Ø ending, c.f *car* [ka:r] ‘he loves’.

---

7 (Evens GMW, §129.d)
To give an indication concerning the range of views on the origin of absolute and conjunct verb conjugations; Thurneseyen posits that absolute endings derive from Proto-Indo-European (PIE) primary endings, while the conjunct endings stem from secondary PIE ones— differing formally in that the primary endings have a final –i that the secondary ones lack. In PIE the distinction between primary and secondary endings characterizes present and non-present respectively, although the absolute and conjunct endings in Irish carry no temporal significance. Cowgill, following Pedersen, conjectures that Proto-Insular-Celtic added *(e)s to the “second place” in the clause—thus either after the verb or after the first preverb. In this view the verb has primary endings in both absolute and conjunct forms. The presence of the final –s allows the retention of the /t/ of the ending (→ /θ/ → /ð/). Here we see how both systems would reconstruct the SG3 PRES absolute and conjunct forms of ‘to carry’:

<table>
<thead>
<tr>
<th>Old Irish</th>
<th>Thurneysen</th>
<th>Cowgill</th>
</tr>
</thead>
<tbody>
<tr>
<td>absolute:</td>
<td>*bhereti</td>
<td>*bereti-s</td>
</tr>
<tr>
<td>*beirid [bʲʰɛɾʲð]</td>
<td>‘he carries’</td>
<td></td>
</tr>
<tr>
<td>conjunct:</td>
<td>*-bheret</td>
<td>*nʲis-bereti</td>
</tr>
<tr>
<td>*ní·beir [nʲiː'bʲɛɾʲ]</td>
<td>‘he does not carry’</td>
<td></td>
</tr>
</tbody>
</table>

McCone’s (SnaG, p. 141, 146) and Stifter’s (p. 67-8) reconstructions of absolute and conjunct endings look like Thurneysen’s, although they do not attribute the differences between them to primary and secondary PIE endings. Interestingly, Stifter states that the absolute and conjunct ending system of Insular Celtic “has nothing to do with the distinction between primary and secondary endings in PIE, but is the result of a special Insular Celtic development: early loss of final inherited short *-i, but retention of the vowel before enclitic particles” and then analogy levelled the entire verbal system (p. 69). Kortlandt’s forms (see chart above on p. 60) follow Pedersen and Cowgill (although he would not like to admit it) in having a final –s in the

---

8 GOI §559, §562, §565; Dillon p. 253
9 Meier-Brügger E 502 (11). Also F 202 (4) „Die Primärendungen markieren die GW [Gegenwart], das Hic-et-Nunc. Die Sekundärendungen...bezeichnen die zeitliche Ungebundenheit, ferner bei bewußter Opposition zur GW die eindeutige VG [Vergangenheit].“
10 This *(e)s is likely related to the finals –s in Kortlandt’s absolute forms, although he disagrees with Cowgill’s reconstructions. Thurneysen relates it to *eəst.
11 Wackernagel’s law states that clitics be placed in the second position in a clause (Dillon, p. 252).
12 (1975), p.56
absolute inflection and this clitic particle positioned directly preverbally as well when an element such as the negative particle precedes the verb.

The reconstruction with the second position *(e)s could have been an earlier stage of the one without it, for /s/ often disappears in Celtic. Additionally, n̥ did originally trigger gemination and thus could have likely at some stage ended in an –s. The final –s of the absolute forms could have been lost early and then lenition apply because of the new auslauting vowel. The essential point is, that although scholars cannot agree on exact reconstructed forms or the origins of the absolute-conjunct distinction, many of the verbal forms likely did end vocalically at the time when lenition would begin to affect the language. Evidence from the Gaulish inscriptions below support this. When lenition occurred phonemically, any nominal following an inflected verbal form ending in a vowel would have LEN triggered on its initial consonant.

The conclusions concerning levelling and the grammaticalization of LEN or non-LEN after verbs discussed above still hold.

VIII.e. Evidence from Gaulish verbs

Gaulish denotes the Continental Celtic language(s) spoken in ancient France (Gaul) before Latin came to dominate. Attestations of Gaulish date from around 300BC to 100AD (Stifter p. 3). After this, the expansion of the Roman empire and the Latin language that it brought with it became dominate in Gaul. Other attested Continental Celtic languages include Celtiberian in Spain, Lepontic in the Alps and Galatian in Turkey.

Although attested Gaulish does not exhibit any orthographically apparent evidence of consonant mutations, they do allow us to see some of the verbal endings which have to be reconstructed for the Insular Celtic languages. Many of these forms do indeed terminate with vowels.

Gaulish examples, orthography and morphemes as in Eska (p. 219-222) ¹³:

• To-šo = KoTe ¹⁴  ‘he gave it’

¹³ capitals represent the stops which are ambiguous for voice in the Lugano script
¹⁴ Stifter’s phonological transcription,( p.5) /tosokonde/
Conroy Mutations VIII. “Direct Object Mutation” - 65 -

To-so = Ko Te
CONNECTIVE PART it PERFECTIVE give.SG.PRET

(connective particle in order to infix proclitic pronoun like Old Irish no!)

• to-me = declai obalda natina ‘Obalda, (their) dear daughter, set me up’
  to- me = declai
  CONNECTIVE PART. PRON.SG1.ACC set up.SG3.PST

• MONI GNATHA 'come, girl!
  MONI
  come.SG2.IMPER

• GABI 'take'
  take.SG2.IMPER
c.f. Old Irish gaib [gaβʲ] ‘take’

• DVGIJONTI = JO _VCETIN IN ALESIJA ‘who serve U. in Alesia’
  DVGIJONTI = JO
  serve. PL3.PRES REL

• regu-c cambion ‘and I (will) straighten the bent thing’
  regu-c
  straighten.SG1.PRES and

Schrijver, ((1997) p. 177-182) suggests that regu-c derives from *regū + kʷe.

Compare this *kʷe ‘and’ with:

-Latin que
-Greek τε
-Sanskrit च, ca
-Lepontic pe

lāTumarai saPsuTai Pe uinom naśom
‘for Latumarus and Sapsuta—Naxion wine’
-Celtiberian –ku-e
-early Old Irish  

\[
\text{ba-} \quad \text{ch} \quad \text{rí} \quad \text{Temrach} \quad \text{(GOI §880)}
\]

[COP:be:SG3:PAST and king:NOM Tara:GEN.

\[
\text{[bax ríː tʰɛɾəx]}
\]

‘and he was king of Tara’

The following examples taken from Sims-William (p. 332) and Stifter (p. 5):

- uediúmí ‘I pray’ (Chamalières inscription)

  c.f. Old Irish guidiu [gǔðũ] ‘I pray’
  Classical Mod. Irish guidhim [gʷiː:jim] ‘I pray’
  Welsh gweddǐo [gwɛðiːo] ‘pray’ (verbal noun)

The following taken from Schrijver, 2007 (p. 358, 363-364):

- imperative of ‘to be’
  3SG biietutu
  3PL biiontutu

Schrijver attributes the ending to <*-tōd. A 3PL form biontutu is also attested, but the origin of the final –s is unclear—it could either represent a realization of the final –d in *tōd or possibly a suffixed pronoun.

- SG3 preterite endings:
  ðeðe ‘has given’
  tomedeclai ‘placed’ (c.f. Old Irish ro-lá)
  ieuri ‘has made, delivered, dedicated (?)’
  toberte ‘he has given’
  c.f. Old Irish do-bert ‘he gave’
  <*ber-s-t + *e

Gaulish does show some loss of final vowels:

  senant u[-]eltan ‘they are ___-ing X’
  < *senanti
Despite lack of clarity as to the exact nature of the endings, many attested Gaulish verbs do end in vowels. They represent an earlier stage of Celtic language than for which we have attested Old Irish. The Ogam Irish verbal system may have looked very much similar to the Gaulish. If so, the vocalic Auslauts of many verbs may have been the trigger to LEN on the immediately following constituent—if capable of undergoing mutation. Hypothetically, the possibility exists that Gaulish did have phonologically conditioned initial mutations (see Gray for possible internal mutation in Gaulish), or they may have developed in a parallel fashion to those of the Insular Celtic languages had Latin not overtaken Gaulish.

The exact cause of the Welsh syntactic mutation sometimes known as “direct object mutation” remains unclear, yet it is likely that, like with other mutations, it occurred originally due to phonological conditions. The evidence from the various medieval and ancient languages point to the verb being the original trigger for this lenition. As the language developed and the original phonological triggers disappeared, levelling and analogy caused the mutation to become regularized. Whether abstract case or an XP or any other trigger actually causes the mutation in Welsh, its occurrence results from complex historical conditions and development. Furthermore, new analogies will likely take place in the future and change the way that the current grammar applies this mutation.
IX. NASALIZATION

In a similar manner to lenition, nasalization (eclipsis, urú, NAS) in Irish arose through phonological processes which through time developed into purely morphophonemic ones. As with the other initial mutations, parallel phonological changes also took place word internally. In each position, certain consonants, following a nasal, assimilated to some aspect of the nasal, but the nature this assimilation differs in the Goidelic and Brythonic branches.

IX.a. PHONETIC PROCESSES

In Welsh, a nasal consonant agreeing in place of articulation and voicing replaces the original consonant (Modern Welsh orthography):

\[
\begin{align*}
\begin{bmatrix}
-\text{son} \\
-\text{cont} \\
(\alpha \text{ vce})
\end{bmatrix} & \rightarrow \begin{bmatrix}
+\text{son} \\
+\text{nas} \\
(\alpha \text{ vce})
\end{bmatrix} \quad // \{\text{NAS}\}\
\end{align*}
\]

This results in: C → N

<table>
<thead>
<tr>
<th>Original</th>
<th>Welsh Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>/m̥ʰ/</td>
</tr>
<tr>
<td>/t/</td>
<td>/n̥ʰ/</td>
</tr>
<tr>
<td>/k/</td>
<td>/ŋ̊ʰ/</td>
</tr>
<tr>
<td>/b/</td>
<td>/m/</td>
</tr>
<tr>
<td>/d/</td>
<td>/n/</td>
</tr>
<tr>
<td>/g/</td>
<td>/ŋ/</td>
</tr>
</tbody>
</table>

(aspiration is a feature concomitant with the voicelessness of nasals)

In Irish original voiceless consonants become voiced \(^1\):

\[
\begin{align*}
\begin{bmatrix}
-\text{son} \\
-\text{vce}
\end{bmatrix} & \rightarrow \begin{bmatrix}
+\text{vce}
\end{bmatrix} \quad // \{\text{NAS}\}\
\end{align*}
\]

\(<\text{if } +\text{cont}>
\<\text{then } +\text{lab}>
\]

---

\(^1\) Citations forms are in Old Irish orthography followed by Modern Irish where different.
This results in: \( C \rightarrow C \)
\[
\begin{align*}
\langle p \rangle /p/ & \rightarrow \langle bp \rangle /b/ \\
\langle t \rangle /t/ & \rightarrow \langle dt \rangle /d/ \\
\langle k \rangle /k/ & \rightarrow \langle gc \rangle /g/ \\
\langle f \rangle /f/ & \rightarrow \langle bhf \rangle /v/ \\
\langle s \rangle /s/ & \rightarrow \langle *z/ \rightarrow /s/ \\
\end{align*}
\]
The non-existent phoneme /z/ reverts back to /s/ except in some Modern Irish dialects which have included it by analogy and English influence; see Appendix ii concerning urú.

and original voiced consonants become homorganic nasals:

\[
\left[ \begin{array}{c}
- \text{son} \\
+ \text{vce}
\end{array} \right] \rightarrow \left[ \begin{array}{c}
+ \text{son} \\
+ \text{nas}
\end{array} \right] \quad \text{// \{NAS\}} \\
< \text{if} + \text{dental}> \\
< \text{then} + \text{lab}> \\
< \text{+ tense}>
\]

This results in: \( C \rightarrow N \)
\[
\begin{align*}
\langle b \rangle /b/ & \rightarrow \langle mb \rangle /m/ \\
\langle d \rangle /d/ & \rightarrow \langle nd \rangle /N/ \\
\langle g \rangle /g/ & \rightarrow \langle ng \rangle /g/
\end{align*}
\]
The tense dental nasal /N/ prefixes to vowels:

\[
\begin{align*}
& [\begin{array}{c}
- \text{syll} \\
+ \text{son}
\end{array}] \\
& \Theta \rightarrow [\begin{array}{c}
+ \text{nas} \\
+ \text{cons} \\
+ \text{ant} \\
+ \text{cor} \\
+ \text{tense}
\end{array}] \\
& \rightarrow [\begin{array}{c}
+ \text{son} \\
+ \text{syll}
\end{array}] \quad \text{// \{NAS\}}
\end{align*}
\]

This results in:
\[
\#V \rightarrow \langle nV \rangle NV
\]
The original nasal which triggered NAS left this /N/ as a relic.
The NAS rule for consonants can be conflated into a single rule:

\[
\begin{align*}
\text{−son} & \rightarrow \frac{\alpha \text{son}}{+\text{vce}} \\
\alpha \text{vce} & \rightarrow \frac{\alpha \text{nas}}{}
\end{align*}
\]

Thus:

\begin{align*}
\text{φ} & /p/ \rightarrow \text{φ} \text{φ} /b/ \\
\text{θ} & /t/ \rightarrow \text{θ} \text{θ} /d/ \\
\text{η} & /k/ \rightarrow \text{η} \text{η} /g/ \\
\text{θ} & /f/ \rightarrow \text{θ} \text{θ} /v/ \\
\text{β} & /b/ \rightarrow \text{mb} /m/ \\
\text{δ} & /d/ \rightarrow \text{nd} /N/ \\
\text{γ} & /g/ \rightarrow \text{ng} /ŋ/
\end{align*}

In Early Old Irish the voiced consonants likely remained after the nasal, but by the Classical Old Irish period had assimilated into it (i.e. /mb/ \rightarrow /m/). The nasal, always /N/, varying in palatal and non-palatal varieties depending on the initial underlying vowel, remains/inserts (depending on viewing the process diachronically or synchronically) before a vowel.

Examples of Old Irish NAS with reconstructed Proto-Goidelic forms adapted from Stifter:

**NEUT nominative/accusative singular:**

- Old Irish: *a ceann mbán* [a jɛn m(b)ə:n] /k/ \rightarrow [g]
- Proto-Goidelic: /*sosin kʷennan bānan/ ‘the white/fair head’ n#b\rightarrow mb\→/m/

**MASC accusative singular:**

- Old Irish: *in n-ech mbècc* [iŋjɛn ex m(b)əg] n#V \rightarrow nV
- Proto-Goidelic: /*sindan ekʷan biggan/ ‘the small horse’ n#b\rightarrow mb\→/m/

- Old Irish: *in fer* [iŋjɛr]\j /
- Proto-Goidelic: /*sindan ſiran/ ‘the man’

**MASC/FEM/NEUT genitive plural:**

- Old Irish: *inna n-ingen ndían* [iŋjɛn nɨnˈɡɛn n(ð)-animate] n#V \rightarrow nV
- Proto-Goidelic: /*sindān iningen deivanan/ ‘of the swift daughters’ n#d\rightarrow nd\→n
Conroy Mutations IX. Nasalization - 71 -

Old Irish inna tíath ngel [ɪn̪ˠəd uːəθ n̪(j)əlˠ] /ʊ/ → [d]
Proto-Goidelic /*sindān toqtan gelan/ ‘of the bright people/tribe’ n̪g→ŋg→ŋ

Preposition /in/ ‘in’:
Modern Irish i dTeamhair [o d̪aɾˠɪ]  
Old Irish hi Temraigh [i d̪eɾˠɔɾˠi] /ʊ/ → [d]
Proto-Goidelic /*in temuri–ċ → in temurike/ ‘in Tara’

Mutation after numbers—compare these three numbers, and the three mutations which follow them, denoted by superscripted ¹ for LEN, ² for gemination and ³ for NAS:

<table>
<thead>
<tr>
<th>Old Irish</th>
<th>Primitive Irish ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 cóic ¹</td>
<td>[koː̞]/ *kʷogʷe</td>
</tr>
<tr>
<td>6 sé ²</td>
<td>[ʃeː]           *ṣεh  h (&lt;χs)</td>
</tr>
<tr>
<td>7 secht³</td>
<td>[ʃɛxt]          *ṣɛχten nasal</td>
</tr>
</tbody>
</table>

Examples demonstrating the mutational effects of these numerals (my examples):

LEN: cóic bái [koː̞ βai] ‘five cows’ b→β  
cóic aidchi [koː̞ aðči] ‘five nights’ no change

GEM: sé (b)bái [ʃeː bái] ‘six cows’ b→bb→b  
sé aidchi [ʃeː hədči] ‘six nights’ V→hV

NAS: secht mbaí [ʃɛxt m(b)ai] ‘seven cows’ b→mb→m  
secht n- aidchi [ʃɛxt n̪aðči] ‘seven nights’ V→nV

N.B. cóic and sé cause nasalization when the NP functions in the genitive (Stifter p. 117).

cóic mbó [koː̞ m(b)əː] ‘of five cows’
sé mbó [ʃeː m(b)əː] ‘of six cows’

² Primitive Irish from Stifter, p. 116
IX. Word-internal nasalization in Goidelic: 3

Historical development:

Following a nasal the voiceless stops, /k/ and /t/, became geminated to /kk/ and /tt/. Then the nasal “coalesced” with the vowel producing a nasal vowel. Next the voiceless geminates /kk/ and /tt/ became voiced when following the nasal vowels - /gg/ and /dd/. Later nasal vowels lost their nasal qualities and became normal oral vowels; /ā/, however, merged with /ē/ to produce a long or short /e/. (These same phonological changes once occurred across certain word boundaries, causing the nasal mutation).

Thus:

\[
\begin{align*}
*\text{onk} & \rightarrow *\text{onkk} \rightarrow *\text{ākk} \rightarrow *\text{ōg} \rightarrow *\text{ōgg} \rightarrow \text{og} \\
*\text{ant} & \rightarrow *\text{ānt} \rightarrow *\text{ātt} \rightarrow *\text{ādd} \rightarrow (*\text{ēdd}) \rightarrow *\text{ēdd} \rightarrow \text{ēdd} \text{ (or ēd)}
\end{align*}
\]

After syncope occurred, any new /nt/ and /nk/ did not change, for example:

\[
\begin{align*}
\text{cin̪a} & \quad \text{‘faults’} \quad \text{*cin̪-a}.
\end{align*}
\]

This parallels the voicing which occurs initially under the nasal mutation, which also occurs to /f/ (actually the earlier /w/ remaining: refer to: GOI §236; Cowgil (1967)) and the borrowed phoneme /p/.

Word internally, all nasals of whatever origin assimilate before /b/, /d/, /g/ to /m/, /n/, /ŋ/ respectively. However, again, this does not apply when the contact originates from syncope—further proof that the mutation was fixed before syncope took place:

\[
\begin{align*}
náim̪tea/náim̪dea & \quad [n̪ˠaːd̪a] \quad \text{‘enemy ACC.PL.’} \\
\text{#}[n̪ˠaːŋd̪a] \\
< *námaitea & \quad [n̪ˠaːmad̪a]
\end{align*}
\]

The Old Irish orthographical word ‹ingen› actually represents two different non-homophonic words and shows the limitations of Old Irish orthography. One the one hand, it can represent a word whose nasal /n/ has assimilated with the following velar:

\[
\begin{align*}
\text{ingen} & \quad [n̪ˠjɛ̃n̪ˠ] \quad \text{‘(finger) nail’} \\
c.f \text{Modern Irish } & \text{ionga [ʊŋgə] & Latin unguis}
\end{align*}
\]

On the other hand, it can also represent a word in which the /n/ and lenited /g/ have come together due to syncope. Here no assimilation of the /n/ and /ŋ/ occurs:

\[
\begin{align*}
\text{ingen} & \quad [n̪ˠjɛ̃n̪ˠ] \quad \text{‘daughter’}
\end{align*}
\]

3 based on, and examples from, GOI §207-208
< Ogham Irish INIGENA
c.f. Modern Irish inión [inʲiːn̪ˠ]⁴ (inghean in the older orthography)

Hence, nasals disappear before /t/ and /k/, which in turn become their corresponding voiced
geminate (i.e. unlenited) counterparts /dd/ and /gg/, which then are de-geminated to /d/ and /g/:
Examples:

•3rd plural verbal endings:
  -(a)it [ədʲ]  < *anti (absolute)
  -(a)t [əd]   < *ant (conjunct)
c.f. Welsh carant [karant] ‘they love’ and Latin amant ‘they love’

•cotlud [kodluð] ‘sleeping’  < *con-tulud
  (verbal noun of coortuili [kon'tulʲi] ‘sleeps’)  

•cét [ce:d] ‘hundred’  < *k̑ntóm / *k̑ntóm⁵

•éc [eːg] ‘death’  (related to Breton ankou < NOM.PL *ŋkewes – owes)

**IX.e. Nasalization in Brythonic**

The Brythonic languages make much less use of nasalization than do the Goidelic tongues. Welsh
alone in the Brythonic branch uses nasalization as an initial mutation. This likely reflects
dialectal differences in Primitive British which separate Welsh from the S.W. dialects which
would develop into Cornish and Breton.

According to Jackson in LHB (p. 639-43), the internal sandhi of a nasal and a voiced stop in
Brythonic parallels the Goidelic treatment. Thus, /mb/, /nd/ and /ŋg/ develop into /m(m)/, /n(n)/
and /ŋ(ŋ)/. He dates this change from around the end of the 5th to end of the 6th century.
Voiceless stops preceded by a nasal receive special treatment in Welsh, which contrasts to their
behaviour in the other Brythonic languages and in Goidelic. During the 8th to early 9th century,

---
⁴ inín [mʲin̪ˠnʲ] in Cois Faírgrre
⁵ c.f Modern Irish céad [ceːd]; Welsh cant [kant]
word internal /mp/, /nt/ and /ŋk/ developed into their corresponding aspirated nasals /mh/, /nh/ and /ŋh/ through an intermediate stage of /m²h/, /n²h/ and /ŋ²h/ (LHB, p. 506). Attested orthographical forms such as pimphet ‘fifth’ in an Old Welsh gloss dating to 820AD, presumably representing [pimʰɛd], point to this intermediate form between /mp/ and /mh/. Jackson does not mention it, but at some stage, in at least some dialects, the nasals became voiceless (i.e. /mʰ/ and /nʰ/) as well (see Appendix vii). Compare the different realizations of nasalization of the Brythonic cluster *mp and the Goidelic cluster *ŋk in the development of Proto-Celtic *kʷinkʷetos ‘fifth’ and (some forms adapted from Stifter, GOI, GMW):

<table>
<thead>
<tr>
<th>Proto-Celtic</th>
<th>*kʷinkʷetos</th>
<th>‘fifth’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaulish</td>
<td>PINPETOS</td>
<td></td>
</tr>
<tr>
<td>Brythonic</td>
<td>*pinpetos &gt; *pimpetɔΣ</td>
<td></td>
</tr>
<tr>
<td>Middle Welsh</td>
<td>pimhet</td>
<td>[pimhɛd]</td>
</tr>
<tr>
<td>Modern Welsh</td>
<td>pumed</td>
<td>[pumed]</td>
</tr>
<tr>
<td>Modern Breton</td>
<td>pemp(v)et</td>
<td>[pemp(v)ɛt]</td>
</tr>
<tr>
<td>Goidelic</td>
<td>*kʷõgʷeθah</td>
<td></td>
</tr>
<tr>
<td>Old Irish</td>
<td>cóiced</td>
<td>[ko:zɛð]</td>
</tr>
<tr>
<td>Modern Irish</td>
<td>cúigiú</td>
<td>[ku:ʒuː]</td>
</tr>
<tr>
<td>Scottish Gaelic</td>
<td>còigeamh</td>
<td>[kʰo:ʒuː]</td>
</tr>
</tbody>
</table>

Lewis and Pedersen (§70.2), however, takes a different view. Namely, that /mp/, /nt/ and /ŋk/ developed to /mh/, /nh/ and /ŋh/ through /m²p/, /n²t/ and /ŋ²k/. The reasoning for this view stems from forms such as mathru [maθru] and cathl [kaθl] whose combinations /θr/ and /θl/ from original /ntr/ and /ntl/ which lost the nasal prior to the /mp/, /nt/ and /ŋk/ stage. Thus, /ntr/ → /nθt/ → /θr/ and /ntl/ → /νθl/ → /θl/. But L&P also notes that hanther ‘half’ and pimphet most likely represent [hanhɛr] or [haŋhɛr] and [pimhɛd] or [pimhɛd].

In Welsh similar changes occurred in external sandhi and resulted in initial nasal mutation. However, this nasal mutation does not occur in same situations in the other Brythonic languages. Jackson accounts for this by positing that the Western dialect of Late British (i.e. that would become Welsh) kept final nasals, but the South-Western dialect (which would lead to Cornish and Breton) reduced final –n “to some sort of denasalised catch” (LHB p. 640). In a footnote on the same page he further explains this as “presumably…a result of cutting of the air passage.
through the nose before the \( n \) was complete, producing a kind of weak \(/\theta/\). This might be a stage in the loss of final \( -n \) in SW.Brit.” The disappearance of the finals nasal permitted these words to generate the same effect as geminated and thus they came to cause the spirant mutation.

To illustrate this, I adapt some examples from Jackson (LHB p. 640-641) which look at the nasalization effects that the Primitive British words \(*in ‘in’ and *men < *mene ‘my’ have on words which follow them in different periods of the linguistic development in both Welsh British and South-West British: (I change many of his phonetic symbols to IPA.)

West British:

early 5\(^{th}\) century:

\[
\begin{align*}
*in-ti\Sigma & \quad ‘in a house’ \\
*mn-\ tigo\Sigma & \quad ‘my house’ \\
*in-donjü & \quad ‘in a man’ \\
*mn-donjə\Sigma & \quad ‘my man’ \\
\end{align*}
\]

early 6\(^{th}\) century:

\[
\begin{align*}
*in-ti\Sigma(\Sigma) & \\
*mn-\ ti\Sigma(\Sigma) & \\
+ NAS \quad *t-nn^4 un\i & \\
+ NAS \quad *m-nn^4 un\j(\Sigma) & \\
\end{align*}
\]

early 9\(^{th}\) century:

\[
\begin{align*}
+ NAS \quad *t-nhï(\gamma) & \\
+ NAS \quad *\ddot{t}-nhï(\gamma) & \\
\end{align*}
\]

\(^{6}\) Jackson uses \( \Sigma \) to denote some sound intermediate between \(/s/\) and \(/h/\) and speculates that it was “perhaps a strongly aspirate \([\beta]\) ?” (LHB §115).
* t-ⁿⁿ
* ŋt-ⁿⁿ

compare Modern Welsh:

*yn nhŷ
fy nhŷ

*yn nyn
fy nyn

South-West British, in contrast, lost the nasal early and thus these words caused gemination—presumably due to the denasalized “catch”:

\( \mu \)-ttivð(Σ)
\( \mu \)-ddun[ð](Σ)

These later developed into the Cornish:

ow thy
ow den

and the Breton:

va thí \( \rightarrow \) va zi
va den

The nasal mutation in Welsh, unlike in Irish (and Scottish), does not seem to apply to vowels or other consonants, to which one might expect a prefixed -n. Although not orthographically represented as a mutation, \( yn \) ‘in’ (which was \( yn \) or sometimes \( y \) in Middle Welsh) does retain the nasal before a vowel:

\( yn \) Iwerddon  [əni:werɔðn]  ‘in Ireland’
(rather than \( y nIwerddon \))

---

\(^7\) \( yn \) nhŷ and \( yn \) nyn are hypothetical forms in Modern Welsh, for Modern Welsh does not permit use of \( yn \) with indefinite nouns, but uses mewn [mewn] instead: mewn tŷ and mewn dyn.

\(^8\) presumably through \( \mu \)-tiyðΣ
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compare the Irish:

\[ \text{in Éirinn} \quad [əˈn̺ʲeːɾʲən̺ʲ] \quad \text{‘in Ireland’} \]

(rather than \text{i nÉirinn})

in which the mutation appears in writing by retaining the original final nasal on the preposition. In the case of this preposition, Modern Welsh “doubles” the nasal which results from NAS in the orthography. This assimilated nasal replaces the original /n/ of the preposition, i.e. \text{ym Moston} [əmostatən] ‘in Boston’ and \text{yn Nghymru} [əŋ̊ʰəmriː] ‘in Wales’.

In southern dialects of Modern Welsh ‘my’ displays the retained historical nasal in the form \text{(f)yn} [(v)ən] alongside than the standard \text{fy} [və]. Speakers employ this variant especially before vowels and consonants which do not participate in the nasal mutation:

\[ \text{fy}n\quad (\text{or ‘yn) enw} \quad [(v)ən\vnuː] \quad \text{‘my name’} \]
\[ \text{fy}n\quad \text{chwaer} \quad [(v)ən\vmaːɾ]\quad \text{‘my sister’} \]
\[ \text{fy}n\quad \text{llygad} \quad [(v)ən\vɬəɡad]\quad \text{‘my eye’} \]

This form displays the (expected) presence of a nasal before vowels.

**IX.d. Scottish Gaelic Innovations in Nasalization**

In Scottish Gaelic the nasal mutation does not operate the same way as it does in Irish. Overall Scottish Gaelic has not preserved the historical \text{urú} as it developed Irish. Some petrified forms can be found, such as \text{a(m) bhfeil} [ə(m)vɛl] the question form of the present tense of the substantive verb ‘to be’ (for \text{a(m) bhfeil} compare Irish \text{an bhfuil} [əvəl]) and \text{a-bhos} ‘over here’ = \text{*a-bh tíos}. Furthermore, nasalization sometimes has persisted, but before vowels only, compare:

<table>
<thead>
<tr>
<th>Scottish Gaelic</th>
<th>ar \text{n-athair}</th>
<th>[arˈvən̺ʲaʰəɾʲ]</th>
<th>‘our father’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish</td>
<td>ár \text{n-athair}</td>
<td>[aːɾˈvən̺ʲaː(ʰə)rʲ]</td>
<td>10</td>
</tr>
</tbody>
</table>

with

<table>
<thead>
<tr>
<th>Scottish Gaelic</th>
<th>ar \text{báta}</th>
<th>[arˈva̭ːɾ̪ʰəɾ̪ʃ]</th>
<th>‘our boat’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish</td>
<td>ár \text{mbád}</td>
<td>[aːɾˈmaːd]</td>
<td></td>
</tr>
</tbody>
</table>

---

9 For Scottish Gaelic transcriptions, whether my own or adapted from other sources, I use IPA following Akerbeltz: http://www.akerbeltz.org/fuaimean/fuaimean.htm

10 ár ‘our’ often pronounced [ʃ] in Conamara
Three systems of Scottish Gaelic nasalization due to dialectal variation (adapted from Gillies, p. 168-9):

<table>
<thead>
<tr>
<th>radical</th>
<th>orthography</th>
<th>ScG1</th>
<th>ScG2</th>
<th>ScG3</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>-m p-</td>
<td>/mp/</td>
<td>/mh/</td>
<td>/mbʰ/</td>
</tr>
<tr>
<td>t</td>
<td>-n t-</td>
<td>/nt/</td>
<td>/nh/</td>
<td>/ndʰ/</td>
</tr>
<tr>
<td>k</td>
<td>-n c-</td>
<td>/ŋk/</td>
<td>/ŋh/</td>
<td>/ŋgʰ/</td>
</tr>
<tr>
<td>f</td>
<td>-m f-</td>
<td>/mf/</td>
<td>/n̪f/</td>
<td>/n̪fʰ/</td>
</tr>
<tr>
<td>b</td>
<td>-m b-</td>
<td>/mb/</td>
<td>/m/</td>
<td>/mb/</td>
</tr>
<tr>
<td>d</td>
<td>-n d-</td>
<td>/nd/</td>
<td>/n/</td>
<td>/nd/</td>
</tr>
<tr>
<td>g</td>
<td>-n g-</td>
<td>/ŋg/</td>
<td>/ŋ/</td>
<td>/ŋg/</td>
</tr>
</tbody>
</table>

ScG1 represents a system in which the final nasal and initial consonant did not merge into a single sound (like they regularly due in Irish NAS) (Ball / Müller, p. 49). Gillies posits that ScG1 was an early Scottish system, still preserved in some dialects, but which also developed further into the ScG2 and ScG3 systems. In all of the these the nasal assimilation must have taken place after the loss of final syllables, for Scottish NAS applies in circumstances which lack historical justification according to normal NAS. Consequently, this contrasts with Irish, whose nasal mutation applies not after nasals in the modern language, but to final nasals of the Primitive Irish period:

Scottish (ScG1)            Irish

an cat   [əŋ kʰt]      an cat   [s(ŋ¹) kʰt] ‘the cat’

nan cat  [nəŋ kʰt]     na gcat  [ŋ³ o gút] ‘of the cats’

Hence, Scottish nasalization is a surface level phonetic phenomenon and in many ways allomorphic variation characterizes nasalization in Scottish Gaelic just like it did in Archaic

---

11 Gillies states that the modern language general omits /f/ from the nasalization mutational system However, he notes that in Perkshire it does become voiced (as /s/ does in this dialect) (p. 169). Thus, -m f→ /mv/. In Borgstrøm (1940 &1941) it seems as if there is no nasal mutation of /f/, but that the nasal /m/ of the standard language does not appear before it; for example, nam faoilc̣an ‘of the seagulls’ would be pronounced [n³ o fu:l̪iːk(ə)] in Barra without the /m/ (1940, p. 183). Compare the Irish na bhfaoilc̣an [ŋ³ o w̪iːl̪ˠən̪ˠ] However, I did find something in Borgstrøm (1940) that suggested a mutation similar to the Irish one the Gaelic place name (an island in the Outer Hebrides) that English borrowed as Benbecula, is spelled Beinn nam faoghla or Beinn-a'-bh-faoghla and always pronounced with the nasalized (voiced) /f/: [b̥e(i) n̪ˠəˈv̪ˠːf̪ːl̪ˠ] Beinn na Faoghla the form that appears on modern maps such as the Tír Chaluim Chille all-Gaelic map of Ireland and Scotland - http://www.colmcille.net/map-intro.html.
Irish, being dependent on the phonetic environment only. A visible trigger exists. However, at least in some dialects mutation carries grammatical meaning with it. In East Sutherland Gaelic (a now all-but, if not completely, extinct dialect), definiteness of masculine singular nouns can be shown by this nasal mutation alone. The article an which caused NAS may sometimes drop in speech (see below), leaving the mutation alone to signify definiteness and masculine gender. The mutation here does not look like any of the systems proposed by Gillies, but rather similar to the Irish one (examples adapted from Dorian, p. 46 & 72):

<table>
<thead>
<tr>
<th>Radical</th>
<th>Orthography</th>
<th>ScG1</th>
<th>ScG2</th>
<th>ScG3</th>
<th>ScG4</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>-m p-</td>
<td>/mp/</td>
<td>/mh/</td>
<td>/mbh/</td>
<td>/(m)b/</td>
</tr>
<tr>
<td>t</td>
<td>-n t-</td>
<td>/nt/</td>
<td>/nh/</td>
<td>/ndh/</td>
<td>/(n)d/</td>
</tr>
<tr>
<td>k</td>
<td>-n c-</td>
<td>/ŋk/</td>
<td>/ŋh/</td>
<td>/ŋbh/</td>
<td>/(ŋ)g/</td>
</tr>
<tr>
<td>f</td>
<td>-m f-</td>
<td>/mf'/</td>
<td>/ŋf'/</td>
<td>/ŋf'/</td>
<td>/ŋf'/</td>
</tr>
<tr>
<td>b</td>
<td>-m b-</td>
<td>/mb/</td>
<td>/m/</td>
<td>/mb/</td>
<td>/mb/</td>
</tr>
<tr>
<td>d</td>
<td>-n d-</td>
<td>/nd/</td>
<td>/n/</td>
<td>/nd/</td>
<td>/nd/</td>
</tr>
<tr>
<td>g</td>
<td>-n g-</td>
<td>/ŋg/</td>
<td>/ŋ/</td>
<td>/ŋg/</td>
<td>/ŋg/</td>
</tr>
<tr>
<td>s</td>
<td>-n s-</td>
<td>/s/</td>
<td>~ /nd/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⟨ʃ⟩</td>
<td>-n s-</td>
<td></td>
<td></td>
<td></td>
<td>/ŋʃ/</td>
</tr>
</tbody>
</table>

Dorian sometimes omits the definite in the transcriptions and does not comment on its actual absence or presence in speech. So the mutation may be enough to signify definiteness.

On the basis these forms which presents another variation of Scottish nasalization, I add “ScG4” the chart (ScG 4 Sutherland nasalization from Dorian, p. 71-2):
To exemplify the unique optional changes to /f/, /s/ and /ʃ/ (examples from Dorian, p. 72):

- **fear**  
  \[\texttt{f[\textipa{er\textbf{ʰ}]}]}\]  
  ‘fellow’

- **am fear**  
  \[\texttt{[\textipa{an\textbf{ʰ}v \textipa{er\textbf{ʰ}]}]} \sim [\textipa{a \textipa{f\textipa{ʰ}}]}]\]  
  ‘the fellow’  
  /\textipa{nØ}/ \sim /\textipa{f}/

- **solas**  
  \[\texttt{[\textipa{sa]\textipa{ʃ}s]}\]  
  ‘light’

- **an solas**  
  \[\texttt{[\textipa{an\textbf{ʰ}v \textipa{dəl\textipa{ʃ}s}]} \sim [\textipa{a \textipa{s\textipa{ʃ}s}]}]\]  
  ‘the light’  
  /\textipa{s}/ \sim /\textipa{nd}/

- **seòlaidh**  
  \[\texttt{[\textipa{ʃoːl̪ˠi]}]}\]  
  ‘X will sail’

- **an seòl?**  
  \[\texttt{[\textipa{an\textbf{ʰ}v \textipa{ʃoːl̪ˠi]}]} \sim [\textipa{an\textbf{ʰ}v \textipa{ʤoːl̪ˠi}]}]\]  
  ‘will X sail?’  
  /\textipa{nʃ}/ \sim /\textipa{ndʃ}/

Gillies also provides an example of nasal mutation functioning as an optional marker for definiteness of masculine singular nouns in the ScG2 system of Lewis and parts of Skye (Ball/Fife, p. 169)—

- **am balach**  
  \[\texttt{[\textipa{a \textipa{məl̪ˠax}]}\]  
  ‘the boy’

In the East Ross dialect (Watson, SnaG, p. 675):

- **am pòg**  
  \[\texttt{[\textipa{b̥oːg}]}\]  
  ‘the kiss’  
  (pòg \[\texttt{[\textipa{pʰoːɡ}]}\] ‘(a) kiss’)

- **am bò**  
  \[\texttt{[\textipa{b̥oː}]}\]  
  ‘the cow’  
  (bò \[\texttt{[\textipa{b̥oː}]}\] ‘(a) cow’)

Regarding this ScG2 system found in Lewis, parts of the Isle of Skye and in the West of Sutherland (i.e the North Hebrides and North-West mainland), Seosamh Watson’s transliterations in SnaG (p. 675) imply that some of the stop does survive—here in the speech of Lewis:

- **an toll**  
  \[\texttt{[\textipa{a \textipa{n̪θou\textipa{ɾi}]}]}\]  
  ‘the hole’

- **an gille**  
  \[\texttt{[\textipa{a \textipa{n̪θiʃ]\textipa{ɾa}]}]}\]  
  ‘the lad’

- **an cuala**  
  \[\texttt{[\textipa{a \textipa{n̪θu\textipa{ɾa]}\textipa{ɾa}]}\]  
  ‘did X hear?’

- **am bàta**  
  \[\texttt{[\textipa{a \textipa{m̪θaːɾa]}]}\]  
  ‘the boat’

Borgstrøm’s (1940) account of Lewis Gaelic agrees with Watson’s transcriptions of nasalized consonants. Additionally he notes that speakers often omit the \[\textipa{a}\] of the definite article; the mutation alone can serve to indicate the definiteness. However, in the dialects of the Southern Outer Hebrides, such as Barra, he states that in contrast to Lewis the stop dominates rather than

---

12 Watson has \[\texttt{[\textipa{a \textipa{n̪θiʃ]\textipa{ɾa}]}]}\], but I take the aspiration to be an error here.
the nasal in these dialects; namely \textsuperscript{NC} in Barra rather than \textsuperscript{NC} (p. 131). The corresponding Barra forms of the above would be (I transcribed \textit{an cuala} following his system; p. 131 for the rest):

\begin{verbatim}
\textit{an toll} \quad [\varepsilon \textipa{d}[\textipa{u}]] \quad \text{‘the hole’}
\textit{an gille} \quad [\varepsilon \textipa{i}[\textipa{f}]] \quad \text{‘the lad’}
\textit{an cuala} \quad [\varepsilon \textipa{u}[\textipa{u}]] \quad \text{‘did X hear?’}
\textit{am b\textipa{a}ta} \quad [\varepsilon \textipa{a}[\textipa{ht}]] \quad \text{‘the boat’}
\end{verbatim}

A similar type of active assimilation can happen in Cois Fhairrge Irish as well where /n/ becomes /ŋ/ before velars (de Bhaldraithe (1975), p. 51):

\begin{verbatim}
\textit{an ghaoth} \quad [\varepsilon \textipa{y}[\textipa{i}]] \quad \text{‘the wind’}
\end{verbatim}

Typically the nasal of the definite article drops completely:

\begin{verbatim}
\textit{an ghaoth} \quad [\varepsilon \textipa{y}]
\end{verbatim}

This dropping of the definite article’s final nasal is obligatory in Scottish Gaelic when the article triggers lenition—in this case after the nominative singular feminine:

\begin{verbatim}
\textit{a’ ghaoth} \quad [\varepsilon \textipa{u}]
\end{verbatim}

\begin{verbatim}
\text{de Bhaldraithe (p. 51) exemplifies that in Cois Fhairrge Irish this external sandhi assimilation that takes whenever contact occurs between a nasal and a velar at word boundaries:

\begin{verbatim}
thug \textipa{ʃ} \textipa{e} \textipa{m} \textipa{n} \textipa{g} \textipa{o} \textipa{Gaillimh} \quad [\textipa{hug} \textipa{ʃ} \textipa{e} \textipa{m} \textipa{n} \textipa{g} \textipa{o} \textipa{Gaillimh}]
\end{verbatim}
\end{verbatim}

‘He brought the turf to Galway

Here the final [n] of \textit{móin} [\textipa{m:n}] becomes the velar [ŋ] and is depalatalized due to the influence of the following [g]. In Irish this represents a very surface level rule of natural colloquial speech and does not exhibit a significance to meaning like \textit{urú} does in Irish or \textit{SG – NAS} after the definite article does in Scottish Gaelic.

Returning to the Scottish phenomenon, Jackson (LHB p. 500-1) describes the ScG2 nasalization and notes variation in how scholars have transcribed them. What does the /mp/ combination in \textit{am port} really sound like? — /mh/, /m\textipa{h}/, /m\textipa{h}/ or /m\textipa{h}/? Interestingly, the progression from [5] represents a schwa sound which has been retracted to low back, and which is not round. It represents a distinctive feature of the Barra accent and is only used “in pausa” (Borgstrøm (1940) p. 151).
/mp/ of ScG1 to the /m'h/ ~ /mh/ of ScG2 looks remarkably like the development he proposed of the nasal mutation of voiceless stops in Welsh! In fact, Ó Máille (1927) treats them as as ‘fá anáil’ (voiceless) rather than aspirated nasals—e.g. [o ɨ'em] for an ceum ‘the footstep’ transcribing the speech of a man from the Isle of Skye (p. 22)—paralleling some of the variations in the treatment of the Welsh “voiceless” nasals; see discussion above and Appendix vii.

Not generally recognized by the standard language, dialectically some irregular Scottish Gaelic verbs preserve a fossilized nasalization of the dependant verbal form: 14

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Skye</th>
<th>Ross-shire</th>
<th>East Sutherland</th>
</tr>
</thead>
<tbody>
<tr>
<td>thàinig</td>
<td>[ha:nik']</td>
<td>[ha:nik]</td>
<td>[hɛ:nik'] 15</td>
<td>[hæ:nik]</td>
</tr>
<tr>
<td>cha tàinig 16</td>
<td>[xa tʰa:nik']</td>
<td>[xa ɸ:nik']</td>
<td>[hæ:nik']</td>
<td>[(x)a tʰ:tæ:nig]</td>
</tr>
<tr>
<td>thig</td>
<td>[hʊg']</td>
<td>[hik']</td>
<td>[hik']</td>
<td>[hig]</td>
</tr>
<tr>
<td>cha tig 16</td>
<td>[xa tʰiɡ']</td>
<td>[xa ɸiɡ']</td>
<td>[hæ ɸiɡ']</td>
<td>[(x)a tʰ:iɡ] *</td>
</tr>
<tr>
<td>Barra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thàinig</td>
<td>[ha:nik']</td>
<td>[ha:nik']</td>
<td></td>
<td>‘came’</td>
</tr>
<tr>
<td>cha tàinig</td>
<td>[xa ɸ:nik']</td>
<td>[xa ɸ:nik']</td>
<td></td>
<td>‘did not come’</td>
</tr>
<tr>
<td>thig</td>
<td>[hik']</td>
<td>[hʊɡ']</td>
<td></td>
<td>‘will come’</td>
</tr>
<tr>
<td>cha tig 16</td>
<td>[xa ɸiɡ']</td>
<td>[xa ɸiɡ']</td>
<td></td>
<td>‘will not come’</td>
</tr>
</tbody>
</table>

* Note that the form [(x)a tʰiɡ] does not display nasalization as evidences by the presence of aspiration. This form corresponds to the “standard” language upon which the orthography is bases. If this were nasalized, one would expect a form such as [(x)a ɸiɡ] or [(x)a ɸjɡ].

The fact that Skye, Ross-shire, Barra and Lewis have [d̥] (i.e. unaspirated [t], the normal reflex of 〈d̥ /d/〉) in the dependent forms of this verb after the negative particle cha contrasts with the

14 (Skye and Ross-shire transcriptions adapted from Borgstrøm 1941, p. 56 & 122; Sutherland transcriptions adapted from Dorian, 1978, p. 120 & 125; Lewis and Barra transcriptions from Borgstrøm 1940, p. 117 & 197). 15 [hɛ:nik'] in Red Point (An Ruadha Dearg); [ha:nik'] in Aultbea (An t-Allt Beithe). 16 The Scottish Gaelic Orthographical Conventions 2005, published by Úghdarras Theisteanas na h-Alba, support these orthographical forms.
typical aspirated [tʰ] found, supported by the orthography, in the standard language. Sutherland Gaelic (represented in Dorian’s study by speakers from the North East coast of Scotland), a practically dead dialect, exhibits more variation with aspiration of the /t/ in tig but not in tàinig. In this dialect the fixed nasalization only operates in the past tense form.

The dependent forms are sometimes spelled dig, d’tig or d’thig and dàinig or d’tàinig dialectally in Scottish to reflect this remnant of eclipsis after cha. c.f. Ulster Irish:

\[
\begin{align*}
    \text{cha dt} & \text{hanic} & [\text{ha d}t\text{han}^3\text{c}] & \text{‘did not come’} \\
    \text{cha d} & \text{thig(cann)} & [\text{ha d}t\text{h}^3\text{n}^3\text{c}] & \text{‘does not come/ will not come’} \\
\end{align*}
\]

(Ó Baoil, p. 48-49)

versus Conamara:

\[
\begin{align*}
    \text{nì} & \text{(or) th} & \text{hanic} & [\text{n}^3\text{t}^1\text{h}^3\text{n}^3\text{c}] & \text{‘did not come’} \\
    \text{nì th} & \text{agann} & [\text{n}^3\text{t}^1\text{h}^3\text{g}^3\text{n}^3\text{c}] & \text{‘does not come’} \\
\end{align*}
\]

(Ó Murchú, An teanga bheo, p. 47 & Ó Siadhail, Learning Irish p. 150-151)

and the Caighdeán (standard) / Munster forms:

\[
\begin{align*}
    \text{nìor th} & \text{hanic} & [\text{n}^3\text{t}^1\text{h}^3\text{n}^3\text{c}] & \text{‘did not come’} \\
    \text{nì th} & \text{agann} & [\text{n}^3\text{t}^1\text{h}^3\text{g}^3\text{n}^3\text{c}] & \text{‘does not come’} \\
\end{align*}
\]

Manx follows Scottish Gaelic:

\[
\begin{align*}
    \text{cha d} & \text{aink} & [\text{xa d}a\text{n}^3\text{c}] & \text{‘did not come’} \\
    \text{cha j} & \text{ig} & [\text{xa dj}^3\text{g}] & \text{‘will not come’} \\
\end{align*}
\]

(SnaG, Williams, p. 727)

Old Irish for comparison 18:

\[
\begin{align*}
    \text{nì-thànaic(c)c} & [\text{n}^3\text{t}^1\text{h}^3\text{n}^3\text{c}] & \text{‘did not come’} \\
    \text{nì-thi(c)c} & [\text{n}^3\text{t}^1\text{h}^3\text{i}^3\text{c}] & \text{‘does not come’} \\
\end{align*}
\]

---

17 The Scottish Gaelic future tense (i.e. thig here) derives from the original present tense (tig). In Ulster Irish the present tense negated by cha rather than nì can optionally stand for the future tense. Thus nì thig(cann) [nïh: h3n3c] only means ‘does not come’. Of course, Ulster Irish may also have nì(or) thanaic [nïh: h3n3c] ‘did not come’ and a distinct future nì thioca [nïh: h3juka] ‘will not come’ (in the standard orthography nì theiscfaidh) as well (Ó Baoil, p. 48-49). This use of cha and the cha + present to mean future occurs in Tory especially.

18 Old Irish had GEM, not LEN, after nì for LEN had yet to become a general marker of the past tense.
X. LOAN WORDS AND LENITION

Everyone knows that Saint Patrick, of Romano-British heritage, is the patron saint of Ireland 1 (died 461 or 493 AD according to the Annuls of Ulster (CELT), although scholars debate the accuracy of this and to exactly what period he belonged). But what is the history of his name, especially considering that Irish originally had no native words with an initial /p/ until later loan words? The name ‘Patrick’ originates from the Latin Patricius meaning ‘noble’ and in Modern Irish the name is Pádraig [paː raj] / [paː draː]. But how did Saint Patrick pronounce his own name? How did the Irish to whom he brought the Gospel say it? How did the name develop over time? After looking at issues surrounding the name Patrick in Irish, we will consider its broader implications for Latin loan words into Irish, the influence of Brythonic, and mutations in both Brythonic and Goidelic.

X.a. COTHRAIGE VERSUS PATRAIC

The Old Irish language possessed two forms of Patrick—namely COTHRAIGE 2 [kʷθraɪʃe] and Pātraic [paː draː]. Scholarship debates the accuracy of the versions of COTHRAIGE / COITHIRCHE and whether or not they actually reflect the Latin Patricius. Ó Ríain’s article ‘When and why COTHRAIGE was first equated with Patricius?’ argues that COTHRAIGE was a native Irish place/tribal name which later in the Middle Ages became associated with the saint and assumed to be the earliest Irish version of the Latin Patricius.

All in all, the plethora of forms of the name indicate, at the very least, that scribes in the later manuscript tradition were unfamiliar with COTHRAIGE as connected to Pātraic and Patricius. For example, the 15th century Betha Phatraic 3 ‘Life of Patrick’ from An Leabhar Breac, considers Pātraic and COTHRAIGE as two separate and unrelated names for Saint Patrick:

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1 see O’Rahilly, The Two Patricks: A Lecture on the History of Christianity in Fifth-Century Ireland for more on Saint Patrick and the time in which he lived, and the possibility that were two men who became confused as one.

2 with many variants (some presumably purely orthographical) such as QUOTIRCHE and QUAGRIGE in Colgan’s Secunda Vita Patricii (GOI §920); Co(i)thirche, Caithirche, Cotirche, the Latinized Quadriga(e/m), Cotthirge, Cotthirge, Co(n)thirge, Chotirge and Contice, Koithirge, Codrige, Cothraige, Cathirge, Cohtrige, Codraidi (Ulich). COTHRAIGE and COITHIRCHE/COATHIRCHE seem to be the most commonly assumed Early Old Irish forms.

3 the language contained in the manuscript is actually Middle Irish (10th-12th centuries), pointing to an earlier source.
Do fhognad tra Patraic don rig & dia triur bráthar. Conid aire sin tuccad fair in n-ainm is Cothraige i. mog cethrair. Batar dino .i.ííí. h-anmand fair .i. Succait a ainmm o thustidib.
Cothraige dia m-boi oc fognum don cethrur. Magonius .i. magis agens a ainm ic German.
Patricius .i. pater ciuium .i. athair na catharda a ainm ic comorba Petair .i. Celistinus.

(http://www.ucc.ie/celt/published/G201009/index.html)
Betha Phatraic (LB p. 24b-29b) (Author: [unknown]) CELT: The Corpus of Electronic Texts

As translated by Stokes:

Now Patrick served the king and his three brothers, wherefore there was given unto him the name of Cothraige, that is, the slave of four persons. Now four names had he, to wit, Succet, his name from his parents: Cothraige, when he served the four persons: Magonius (i.e.magis agens, his name with Germanus: Patricius (that is, "father of citizens") his name with Peter's successor, Celestinus.

On the Life of St. Patrick (Leabhar Breac) (Author: Translated by Whitley Stokes) CELT: The Corpus of Electronic Texts
(http://www.ucc.ie/celt/published/T201009/index.html)

Folk-etymology likely connected Cothraige to the story of Patrick’s captivity because of its apparent similarity⁴ to the number ‘four’ cethair [cethair].

X.b. A PREHISTORY OF LENITION

First, in order to explain how Patricius could ever lead to a form such as Cothraige, one must take the historical development of Irish into account. Among other factors such as vowel changes, apocope, and lack of the phoneme /p/ in native words ⁵, internal LEN affected loan words in a similar manner to native ones. Thus loan words can actually help determine the period in time in which the consonant mutations occurred. In order for Patricius to participate in internal consonant mutation, it must have been borrowed before the mutation (in this case only LEN

---

⁴ probably connected with the popularity of folk-etymology for place names as evidenced by the extent of DINDS[H]ENCHAS [díːn′ʃəræs ~ díːn′ʃən̪ˠəræs] ‘typographical lore’ in Medieval Irish literature.
⁵ Celtic treatment of PIE */p/ according to Pederson (L&P § 25, 29-33): it first became the voiceless bilabial fricative */q/, which in turn became /x/ before /s/ and /t/ and /o/ (through */h/) elsewhere. PIE */ph/ developed the same as */p/. Examples: internal PIE */p/ → Proto-Celtic ø: PIE *pær-,r- ‘father’ → OI athair [aθær] ‘father’. Intervocally, *qapero- → OI cáera [kʌrə] ‘sheep’. */pt/ → Goidelic /xt/: *septm̩- → OI secht [ʃɛxt] ‘seven’ (c.f. Gaulish sextametos ‘seventh’ & MidW seith [ʃɛθ] ‘seven’ – here the /x/ was lost, but diphthongized the vowel). */ps/ → Proto-Celtic */xs/ → Goidelic /s/, Brythonic /χ/: *wops- → OI ós, úas [o,s, u:ς] ‘above, over’; MidW uch [uʃ] ‘above, over’. For combinations with other consonants and vocalic changes associated with the loss of /p/, see L&P. Proto-Celtic */kʷ/ became /p/ in Brythonic and eventually /k/ in Goidelic; hence the P-Celtic / Q-Celtic designation for Brythonic and Goidelic languages.
applies) took place—or at least before the variation of lenited and unlenited consonants ceased to be allomorphic. When Primitive Irish borrowed *Patricius* [patrikijus], the /p/ would have been “treated” as the native /kʷ/ ⁶, thereby retaining labial feature of the phoneme → *[kʷatrikijus]. (It seems unusual that the much closer sound /b/ was not reverted to instead; perhaps a correspondence between the Brythonic /p/ from /kʷ/ and the Irish /kʷ/ played a role.)

The languages would have been quite close during the 4th-5th centuries ⁸, and Saint Patrick and his British missionaries would have been speakers of both Brythonic and Goidelic—many of the Irish too who raided Britain and took British slaves would have likely been familiar with Brythonic, c.f. GOI §920.) The record shows correspondence of Latin /p/ and Goidelic /kʷ/ word initially. Since the normal reflex of /p/ in this position is Ø, Old Irish words beginning with /p/ must be loan words.

Furthermore, if the word *Patricius* were borrowed before LEN took place, it would fully participate in internal mutation just like any native word. This explains the /θ/ and /s/ in place of /t/ and /k/. Apocope caused the loss of final syllables from Primitive Irish to Old Irish, so

---

⁶ L&P §83.4, c.f. Ogam Irish QRIMITIR [kʷriːðiːɾ], OI *cruimther* [kɾuimθɛɾ] ‘priest’ vs. Early Welsh *premther* [pɾɛmθɛɾ]; all from Latin *presbyter*. (GOI (§223) states that Cormac’s Glossary (211) notes that Old Irish modeled *cruimther* on Old Welsh *premther* [pɾɛmθɛɾ] (“Cruimther .i. göidelg indi as prespiter. Premther didiu a combrec side…Ni tintúd cőr dondí as prespiter anní as c[h]ruimther. Is tintúd cőr dondí as premter indní as c[h]ruimther” (Meyer, p. 19)), which was from the Latin. DIL notes that the variant with an unlenited /m/ exists—[kɾuimθɛɾ].

⁷ GOI §920: “It may be assumed that in earlier borrowings p was as a rule replaced by q because of the old correspondence between Irish q and the p of native Britannic words.”

Ex. Old Irish *cīa* [ciːa] vs. Welsh *pwy* [puːɪ] ‘who’; OI *cách* [kax] vs. W *paʊb* [paʊb] ‘everyone’; OI *cenn* [cen] vs. W *pen* [pen] ‘head’; OI *ceithir* [cɛθɛɾ] vs. W *pedwar* [pɛdθaɾ] ‘four’; OI *cīall* [ciːɔl] vs. W *pwyll* [puːɪ] ‘sense’. The /k/ was likely still /kʷ/ during the time when these early borrowings occurred and thus distinguished from the [k] that Welsh and Irish held in similar, c.f. OI *cū* [kuː] & W *ci* [kiː] ‘dog, hound’ and OI *cēt* [cɛt] & W *can* [kant] ‘hundred’.

⁸ as an example of the close similarity of Goidelic and Brythonic, take the oath of Saint Patrick *mo De Brōth* [mo ðeː brɔːθ] ‘by the judgment of God!’, the Early Old Irish equivalent of the Old Welsh *muin Duiu Braut* [mʊin (d)ɪuə braʊd] ‘by the judgment of God!’. Koch hypothesizes that the original Brythonic oath that Saint Patrick swore was */mʊnðəwɔs brɔðɔs* [mʊnðəwɔs brɔːðəs] which was borrowed into Primitive Irish as */mʊnðəwɔs brɔːðɔs* which became *[mʊnðəwɔ brɔːðəs] in Late Primitive Irish (again with Σ representing some sort of stage between /s/ and /h/ as in LHB) (Koch, p. 180-181). Jackson in LHB (p. 633), contrasts and hypothesizes that Patrick spoke *[mʊn ðəwɔs brðoðɔs] in Late British, which Irish borrowed and Gaelicized the Primitive Welsh */mʊn nʲðəw brrʊðɾ* into *mo De Brōth*. Cormac Úa Cuileannáin, in his glossary states that the original form Patrick said was *muin Duiu braut* which the Irish incorrectly say (“quod Scoti corrupte dicunt” / “is tráileacht aderait na Scotitca hé”) as *modelbroth* (Meyer, p. 72). It is fascinating how knowledge of the Brythonic could have persisted so long (into the 10th century).
now we should be at */kʷaθríaχɛː/ → later changes such as palatalization, vowel reduction, the replacement (voicing) of /x/ with /ɣ/ in unstressed intervocalic syllables⁹, the loss of labialization in /kʷ/ and the change from /a/ to /o/¹⁰ need not concern us here as they do not relate to consonant mutation. Thus, the normal development of Primitive Irish to Old Irish can derive /koθríaɣʲʰə/ from /patrikii̯hus/. As per Koch (p. 182-3), Harvey argues that a pre-LEN borrowing of *Patricius into Primitive Irish should have yielded *Cothairche (because of syncope and epenthesis), as if it had been from Proto-Celtic *kʷatrikjos. Koch (p. 183) postulates that it may have been the strong penultimate stress of Brythonic, in contrast to the strong initial stress of Goidelic, which blocked syncope and led to the from *Cothraige. If Brythonic had its penultimate stress during Patrick’s lifetime, this would have likely affected Brythons’ pronunciation of Latin. If *Patricius were pronounced */pɐ'tɾikjuːs/ in early (pre-lenition) British Latin—it may have kept its “strange” stress in Primitive Irish: */kʷoθ'rixiːjaɣ/ (Koch sites as “Archaic” *[kʰɔθɾiɣ'e] ); which would cause Old Irish to keep the second syllable which would normally be susceptible to syncope (but likely reverting the stress to the first syllable post syncope—*[kʰɔθɾaɣ'e]). *Cothairche */kɔθʰɾeɟɛ/ (with a “new” second syllable added to prevent the consonant combination /ɾrx/) could have still existed as a possible pronunciation as well.

The form *Pátraic must have entered the Irish language in another manner and in another time. One must assume that the same LEN that happened in Brythonic also happened in British Latin and that the *Patricius re-entered the Irish language through British Latin or Brythonic after the period of Irish LEN. Brythonic lenition (different from Goidelic LEN, see section IV.a), which voices voiceless stops, means that *Patricius would probably have been pronounced */pə'ðɾɪɡiːə/ in British Latin (adapted from Koch, p. 67 & Uhlich, p. 63). When Irish which permits initial /p/, borrows this Brythonic influenced name it surfaces as the familiar [paːdrəɡ]. Internal lenition in Irish must have already ceased to be productive, for Irish lenition does not apply. Otherwise */pə'ðɾəɣʲ/ would result.

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⁹ c.f GOI §129 (also see §128 & §130)

¹⁰ the labio-velar properties of the /k/ transferred to the vowel and thus the rounding (and raising) of /a/ occurred: [a] → [ɔ] (probably through [n]): „Dieses erklärt sich durch den Einfluß des labialen Elements des unmittelbar vorangehenden Labiovelars und kann als Labiovelarumlaut bezeichnet werden, also *kʰa- > *kʰo-“ (Uhlich, p. 72).
X.b.1. KOCH

What implications do these forms have for lenition in Irish and Brythonic? Following Koch’s attempts to unite the lenition in both branches of Insular Celtic languages, the British Latin pronunciation of *Patricius* would produce /*pa(:)drigijuh*/ rather than /*pa(:)drigijuh*/. Here follows a synopsis of his account of the stages of lenition (p. 198-199):

- "Old Celtic" LEN:

  - stops had fortis (absolute initial position) and lenis (intervocalic and some other positions) allomorphs:

    \[
    \begin{align*}
    /k^w, k, t, b, d, g/ & \rightarrow \text{fortis} \\
    /\tilde{g}^w, \tilde{g}, \tilde{d}, \tilde{\delta}, \gamma/ & \rightarrow \text{lenis}
    \end{align*}
    \]

  - The opposition is basically between aspiration/non-aspiration in the case of formerly voiceless stops and between plosive and fricatives in the case of former voiced stops.

    - In Brythonic /k^w/:
      \[
      [k^w, \tilde{g}^w] \rightarrow [p^h, \tilde{b}]
      \]

  - “Late Primitive Irish Spirantisation”:

    - the voiceless lenis are even further lenited into fricatives:
      \[
      [\tilde{g}^w, \tilde{g}, \tilde{d}] \rightarrow [x^w, x, \theta]
      \]

    - Koch claims that they lost their [–cont] feature around the mid to late 5th century.

After apocope, the lenes/fortes allomorphs became phonemicized because they now contrasted. For example, /x/ could now occur in non-intervocalic positions—such as word-final position: c.f. Old Irish *liach* [lʲiːax] ‘pain, sorrow, woe; ladle’ < Proto-Celtic *leika- (my reconstruction). Thus, /x/ was no longer an allomorphic variant of /k/, but could contrast and form a near minimal pair with *lecc* [lʲeːk] ‘slab of rock’ (Modern leac [lıːæk]) < *likkâ, *lip-kâ (MacBain, p. 225). Furthermore, the Old Irish forms *liacc* [lʲiːag], genitive of *lie/lia* [lʲiː/lʲia] ‘stone’ < *lēwink (MacBain p. 228) and *liaig* [lʲiːɣ] ‘physician, leech’ < *lī(φ)agι- (PCD) provide the contrast of the voiced velar phonemes. (I have adapted the Proto-Celtic reconstructions, unless otherwise notes, from MacBain.)

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11 Modern Irish distinguishes *liach* [lʲiːax] ‘woe, sorrow, pain’ and *liach* [lʲiːax] ‘ladle’ by their genitives and genders: *liach* [lʲiːax] (masc.) and *léiche* [lʲeːxa] (fem.) respectively. *Liach* ‘ladle’ varied with *lág* [lʲiːɣ] in Old Irish.
Thus, “Old Celtic lenition” was responsible for the form /*pa(:)drig̊i̯uh/ in Welsh, which later then became [pʰa:drəɹ] in Irish. Although Koch does not mention it, his theory holds that /patrikii̯us/ became /*kʷadri̯gii̯us/ on its way to Cothraige at some point in early Primitive Irish before “Late Primitive Irish Spirantisation” occurred and /q/ and /g̊/ became /θ/ and /x/.

When Old Irish, in a post “Late Primitive Irish Spirantisation” stage, borrowed words from British Latin already affected by “Old Celtic lenition”, the /q/ of British Latin sounded much closer to the native Irish /d/, which had newly developed from /*nt/, than to /θ/. All /d/’s in Irish had already changed to /θ/ and the change no longer productively affected the language word-internally. One might think that a voiceless /d/, i.e. /t/, would stay /t/, but in Koch’s model the fortis version of Proto-Celtic *t was a distinctively aspirated /tʰ/. Therefore, /d/ seemed a closer approximation. It is interesting to note that voiceless stops are still aspirated in Modern Irish, Scottish Gaelic and Welsh and in most Welsh and Gaelic dialects the “voiced stops” are actually unaspirated voiceless stops. In Irish “voiced stops” are semi-voiced or voiced.

Reflecting on Koch’s arguments, the question of exactly when Patrick was borrowed for the second time in Old Irish, yielding Pátraic, still remains. If it was borrowed during the active LEN phase (“Late Primitive Irish Spirantisation”) then there would have been allomorphic variation between /q/ and /θ/ and /g̊/ and /x/ in that stage of Irish and one would expect ‘Patrick’ to participate in any sound change in a similar manner to native words. Since Pátraic obviously did not participate in this (which would have yielded the unattested /*paθri̯x/), is it possible that speakers of the time assumed that ‘Patrick’ contained voiced geminate stops /dd/ and /gg/ (because the variation between /d/ & /θ/ and /g̊/ & /x/ was obviously absent), such as those resulting from *nt and *nk? A hypothetical /*pa:dri̯ggi̯ah/ would still produce [pa:drəɹ] though degemination. Or alternatively, if borrowed after the active internal operation of LEN in both Brythonic and Goidelic (both Old Celtic LEN and Late Prim. Irish spirantization), it would have simply transferred the /q/ to /d/ and /g̊/ to /g/ as described above. Or, if Koch’s theory is wrong and /d/ and /g̊/ never existed, the form /pa:drəɹg/ could have kept the /d/ and /g/ found in the Brythonic pronunciation.

X.b.2 Jackson

Jackson’s earlier view of the prehistory of LEN (based upon his revised account in Historical Phonology of Breton, as given in Koch, p. 197-198) differs from Koch’s and forces the
divergent lenitions of the Goidelic and Brythonic branches to develop independently during the same time period:

- **Common Old Celtic LEN:**
  - Environmentally conditioned phonetic opposition of fortis (to which he only assigns an abstract phonetic value using uppercase letters) and lenis (no LEN in either the Brythonic or Goidelic sense involved):
    - fortis $\rightarrow /K^\wedge, K, T, B, D, G/$
    - lenis $\rightarrow /k^\wedge, k, t, b, d, g/$

- Around the late 5th century AD LEN occurred in both Goidelic and Brythonic to the lenis stops, but this mutation manifested itself in different ways in the case of original voiceless stops in the two branches:
  - **Late Primitive Irish:**
    - unlenited $\rightarrow /K^\wedge, K, T, B, D, G/$
    - lenited $\rightarrow /x^\wedge, x, \theta, \beta, \delta, \gamma/$
  - **Late British (with /k^\wedge/ $\rightarrow /p/$):**
    - unlenited $\rightarrow /P, K, T, B, D, G/$
    - lenited $\rightarrow /b, g, d, \beta, \delta, \gamma/$

When /p/ became a phoneme of Irish, it followed the pattern and became /f/ under lenition. Koch does not mention it, but Jackson’s theory must have the unlenited series realized as “normal” stops: /p, k^\wedge, k, t, b, d, g/. Thus in Jackson’s timeline, loans of the Cothraige type of loan words would have been borrowed before lenis consonants took different paths in the later part of the 5th century.
Approximate basic/combined stages in the two derivations of Patrick’s Old Irish names (based on Koch’s theory of LEN):

<table>
<thead>
<tr>
<th>Changes (highlighting those relevant to LEN)</th>
<th>Conthraige (not assuming Cotharche)</th>
<th>Changes (highlighting those relevant to LEN)</th>
<th>Pátraic</th>
</tr>
</thead>
<tbody>
<tr>
<td>•Latin (British stress) /patrikijus/</td>
<td></td>
<td>•British Latin /*pʰaː(ː)drígijuh/</td>
<td></td>
</tr>
<tr>
<td>•“Old Celtic” LEN /*kʷaːd̥rígijah/</td>
<td></td>
<td>•vocalic change /*pʰaːd̥rígijah/</td>
<td></td>
</tr>
<tr>
<td>•/s/ → /h/</td>
<td>•“Late Prim. Irish Spirantization”</td>
<td>+vce: /C/ → /C/ /*pʰaːdrig⁴/</td>
<td></td>
</tr>
<tr>
<td>•vowel change</td>
<td>•transfer of + lab /*kʷ{o}d̥rיקיםjah/</td>
<td>•apocope</td>
<td></td>
</tr>
<tr>
<td>•“Late Prim. Irish Spirantization”</td>
<td>from /k/ to V: a → o</td>
<td>•palatalization</td>
<td></td>
</tr>
<tr>
<td>•vocalic change</td>
<td>•vowel reduction</td>
<td>•voicing of voiceless fricative in unstressed syllables</td>
<td></td>
</tr>
<tr>
<td>•apocope /koθrˠiəɟiə/</td>
<td>•voicing of voiceless fricative in</td>
<td>→ classical OI [pʰaːdrọj]</td>
<td></td>
</tr>
<tr>
<td>•Goidelic stress /koθrˠaːɟe/</td>
<td>unstressed syllables</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X.c. OTHER LOAN WORDS

This “pairing” of loan words in Old Irish was not limited to ‘Patrick’, but rather represents a much larger process in which loan words assimilated into Irish. Depending on when the borrowing took place, different phonological changes took place. Old Irish sometimes developed different versions of the same Latin word as it did with ‘Patrick’. The situation is complicated by the
fact many later loan words were in fact modelled on the earlier ones and by the fact that the sound and mutational changes affect the language gradually. Thus, it is difficult to date when loan words entered the language and when the phonological processes occurred. Still, one can assemble Latin to Old Irish loan words into generally “earlier” and “later” groups. Here is a chart, adapted from Uhlich (p. 58) which shows the trends of loan words which related to mutation (my transcriptions):

<table>
<thead>
<tr>
<th>Earlier</th>
<th>Later ( +Brythonic LEN influence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Latin /p/ → Prim. Irish /kʷ/ → Old Irish /kː/</td>
<td>• Latin /p/ → Old Irish /pː/</td>
</tr>
<tr>
<td><strong>Patricius</strong></td>
<td><strong>Patricius</strong></td>
</tr>
<tr>
<td>/patrikijus/</td>
<td>/pʰaːdɾɪɡʲuːh/</td>
</tr>
<tr>
<td>‘Patrick’</td>
<td>‘Patrick’</td>
</tr>
<tr>
<td>apostolus</td>
<td>pácce(m)</td>
</tr>
<tr>
<td>/apostolus/</td>
<td>/paːɡɛ(m)/</td>
</tr>
<tr>
<td>‘apostle’</td>
<td>‘peace’</td>
</tr>
<tr>
<td></td>
<td>‘kiss’</td>
</tr>
<tr>
<td></td>
<td>(from ‘kiss of peace’)</td>
</tr>
<tr>
<td>• Latin /t, k/ lenited to → Irish /0, xː/</td>
<td>• Latin /p, t, k/ (Bryth. LEN →) Old Irish</td>
</tr>
<tr>
<td>baculu(m)</td>
<td>apostolus</td>
</tr>
<tr>
<td>/bakula(m)/</td>
<td>/abostoluːh/</td>
</tr>
<tr>
<td>‘staff’</td>
<td>‘apostle’</td>
</tr>
<tr>
<td>presbyter</td>
<td>nota</td>
</tr>
<tr>
<td>/presbyter/</td>
<td>/noda/</td>
</tr>
<tr>
<td>‘priest’</td>
<td>‘sign’</td>
</tr>
<tr>
<td>puteus</td>
<td>cuithce</td>
</tr>
<tr>
<td>/puteus/</td>
<td>[kuθʃs]</td>
</tr>
<tr>
<td>‘pit, well’</td>
<td></td>
</tr>
</tbody>
</table>

12 Latin transcriptions here approximate British Latin pronunciation.
Conroy Mutations

X. Loan Words and Lenition

- 93 -

• Latin /f/ \(\rightarrow\) Prim. Irish /su̯/\(^{13}\) \(\rightarrow\) Old Irish /s/:
  
  fenestra \(\rightarrow\) genester
  
  /fenestra/ \(\rightarrow\) [fənɛˈstɛr]/
  ‘window’

  • Latin /f/ \(\rightarrow\) Old Irish /f/:
    
    firmamentu(m) \(\rightarrow\) firminmint
    
    /firmaːmentu(m)/ \(\rightarrow\) [fɪrˈmɪnˈmɪnt]/
    ‘heaven’

• Latin /nt, ŋk/ \(\rightarrow\) Old Irish /nd, ŋ/:
  
  planta \(\rightarrow\) cland
  
  /planta/ \(\rightarrow\) [kl̩ˈan̪d]
  ‘plant, shoot’

  • Latin /nt, ŋk/ \(\rightarrow\) Old Irish /nt, ŋk/:
    
    gentēs \(\rightarrow\) genti
    
    /genteːh/ \(\rightarrow\) [jen̺ˈtiː]/
    ‘gentiles’

• Latin /nt, ŋk/ \(\rightarrow\) Old Irish /nd, ŋ/:
  
  uncia \(\rightarrow\) ungae
  
  /ˈunɡe/ \(\rightarrow\) [un̪ˈɡe]
  ‘ounce’

  punctu(m) \(\rightarrow\) ponc
  
  /ˈpɔŋk/ \(\rightarrow\) [pɔŋk]
  ‘point’

As a further example of a single Latin word borrowed into Old Irish twice, take *orthu* [orvθu] and oróit [orvθoːd] ‘prayer’ from Latin orātiō. According to McCone ((1996), p. 30-31) the earlier borrowing took the path: Latin orātiō /ɔrɔːt-/ \(\rightarrow\) *oraθiyu > Old Irish *oraθu [orvθu] > Middle Irish ortha [orvθa] and the later the path: Latin orātiō /ɔrɔːd-/ \(\rightarrow\) Old Irish oróid [orvθoːd]. Later in Old Irish, probably out of analogy with the Latin, the vowel reverted back to /aː/ oráit [orvθaːd], c.f (Classical) Modern Irish oráid [orvθaːd].

One must note that some scholars, such as Ó Riain (p. 698-703), however, do suggest that Cothraige did not develop from Latin Patricius, but rather originates from the name of several Irish tribes (Cothraige, Cathraige, Cathtrige, Coithrige) and later place names associated with them which subsequently became linked with Saint Patrick as another name. One of the supposed names of the saint in the work of Tíreachán is the 7th century form Coithirtheicus, which, Ó Riain claims, was close to enough to Cothraige that some later authors substituted the latter for the former.

---

\(^{13}\) Primitive Irish originally had no phoneme /f/, but it arose natively from the lenition of /su̯/, through /hu̯/ (i.e. the devoicing of /u̯/, parallel to the general development of initial /u̯/ into /f/; fer \(<\) *wirah). This restored form results from the “delenition” of the borrowed Latin word, i.e. /f/ was considered to originate from /s(u̯)/. (Koch, p. 63)
The motivation behind this was to establish the primacy of Armagh and the North over Munster, for one of the Coithrige/Cathraige tribes were subjects of the King of Cashel. Other earlier Irish tribes shared a similar name, that is to say, the Coithrige of Uisneach and the Catraige of Delbna (a tributary tribe of Uí Maine).

However, the phonological changes needed to derive Cothraige from Patricius do seem to parallel internal changes in the Irish language and the treatment of other loan words from Latin. So although it was similar to native tribal names, Cothraige as a name for Saint Patrick very likely did come from Latin Patricius. Perhaps the amount of variation of forms can be attributed to confusion with the tribal names.
XI. /t/ before /s/

The “eclipsing” of /s/ to /t/ originates from lenition. The /t/ actually originally compromised a part of the definite article which transferred to the noun. We can see this by looking at how Old Irish represented this mutation.

In Modern Irish ‘the father’ is:

\[ an \ t\text{-}athair \quad [əˈtæ:(h)əɾʲ] \quad \text{‘the father (NOM.)’} \]

Compare Old Irish, which links the /t/ directly with the definite article:

\[ int \text{-} \text{athair} \quad [ɪn̪ˠt \ aθəɾʲ] \]

Pokorny reconstructs the pre-history of \textit{an t-athair} from Goidelic $\rightarrow$ Primitive Irish $\rightarrow$ Old Irish in \textit{Altirische Grammatik} (§85):

\[*sindos aθer > *sindahaθerʲ > *(s)indhaθirʲ > int ath(a)ir\]
\[/dh/\rightarrow/t/\]

One can see that the underlying form of the Celtic definite article can be reconstructed to */sind-/*.

The /d/ of the stem (usually assimilated with the /n/ in most other forms) became devoiced as a result of the /h/— a product of lenited /s/— from either the end of the definite article itself (i.e. /*sindos*/) or from the /s/ at the beginning of the word that the article modifies. Thus Modern Irish \textit{an tsúil} [s(ŋ) tuːlʲ] ‘the eye’ can be explained by (Pokorny §85):

\[ \text{the Old Irish form } int \text{-} súil \quad [ɪn̪ˠt huːlʲ] < *(s)indhuːlʲ < *sindhǔlis < *sindā sǔlis\]
\[/dh/\rightarrow/t/\]

It might be better from a historical perspective to view the form as \textit{ant shúil} or \textit{an tshúil} in Modern Irish, as this form clearly shows that the mutation is a special case of lenition, but due to lenition nonetheless.
XII. LEN-BLOCKING

Certain circumstances cause the non-application of lenition or de-lenition, depending on if one takes a synchronic or diachronic viewpoint of the phenomenon. Lenition “blocking” occurred in Old Irish when a word that would normally trigger lenition terminated in a consonant that was homorganic, that is have the same place of articulation, with the initial consonant of the word due to undergo lenition (Stifter, p.31). Thus, it is clear that lenition blocking developed after the loss of final syllables, for it is the attested Old Irish forms, not earlier ones or underlying abstract forms, which matter here. Delentition operates as a surface rule in Old Irish. In essence three groups are affected: the large and important class of dentals (/d, t, n, l, s/), the labials (/p, b, m/) and the velars (/g, k/) (of course their lenited variants may appear in word final position as well). To exemplify:

\[ \text{cach céitbuid} \quad [\text{kax ce:дβuð}] \quad \text{‘every feeling’} \quad \text{(GOI §231)} \]

and not:

\[ *\text{cach chéitbuid} \]

The /k/ of céitbuid does not lenite to /x/, because it shares the same place of articulation (velar) with the final /x/ of cách. Pre-apocope this must have been something like /kaxa x–/, but after the final syllables dropped the LEN rule no longer triggered mutation because two guttural consonants came into contact. Compare with:

\[ \text{ó cach tharmmorcnib} \quad [\text{o: kax tharmor\'kŋ\'x偶尔}] \quad \text{‘from all endings’} \quad \text{(GOI §490)} \]

where /t/ lenites to /θ/ because /x/ and /t/ do not agree in place of articulation.

This parallels internal delenition when homorganic consonants come into contact because of syncope:

\[ \text{ad·comaltar} \quad [\text{að\'kʊəltəɾaɾ}] \quad \text{‘is joined’} \quad \text{(GOI §139)} \]

Proto-Irish: /*komLatar/
-LEN→ /*kʊəltəɾaɾ/
-SYNC→ /*kʊəltəɾaɾ/
-DE-LEN→ /*kʊəlɔɾəɾ/
-EPENTH→ /*kʊəltəɾaɾ/
Old Irish [kʊəltəɾaɾ]

Modern Irish does not observe this mutation prevention rule as strictly. The system is falling apart, for the phonetic changes are no longer active. It is impractical to refer to lenition and de-
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XII. Lenition Blocking - 97 -

Lenition in Modern Irish, but rather to lenition and lenition blocking for the exceptions in which LEN does not occur. LEN-blocking occurs mostly with dentals only, but even these contexts have many exceptions. Ó Siadhail, in *Modern Irish*, states that LEN is sometimes blocked by homorganic dentals (p. 113):

- **an diabhail** [ə d'ɐu̯l̪] ‘of the devil’
  - *an dhiabhail*

- **aon teach** [ən tɐ̯ːx] ‘any house’
  - *an theach*

- **an-socair** ['aɲˠsokəɾʲ] ‘very sturdy’
  - *an-shocair*

- **bean slachtmhair** [bʲæːn̪ˠʃl̪ˠæːxtwəɾʲ] ‘a handsome woman’
  - *bean shlachtmhair*

Lenition, however, often does operate in the same contexts with attributive adjectives and attributive genitives as well as with compounds (forms from Ó Siadhail (1989), p.113 unless otherwise noted):

- **caolshéans** [kiːɬˠçæːn̪ˠs] ‘slender chance’
  - but on the other hand:

- **caoldroim** [kiːədrˠiːm] ‘small of the back’

- **móin dhubh** [muːnʲ ɣu] ‘black peat’

- **sloittin dhraiocht**¹ [sl̪ˠɛtʲiːn̪ˠ ɣɾˠiː(ɔ)xt] ‘a wand’
  - stick.DIMIN magic.GEN

versus the standard:

- **saighead draiochta** [saʃd drˠiː(ɔ)xtə] ‘magic arrow’
  - arrow magic.GEN
  - (Caighdeán Oifigiúil, p. 84)

¹ Cois Fhairrge Irish drops the final –a that appears in the standard language in the genitive case of this noun; thus standard *draiochta* [drˠiː(ɔ)xtn̪ˠ]
Although LEN-blocking occurs much less frequently with homorganic labials and velars than with dentals, it nevertheless does occur. The infrequently used preposition *um* [um] ‘about, around, at’, for example, usually triggers LEN:

\[
\text{um Cháisc} \quad [\text{um } \text{x}a:\text{ʃe}] \quad \text{‘at Easter’}
\]

but fails to do so before /b, p, m/ (Mac Congáil, p. 83; Bräsicke):

\[
\text{um bosca} \quad [\text{um } \text{b}os\text{ka}] \quad \text{‘around a box’}
\]

Some Munster dialects such as Clear Island (*Cléire*) in County Cork have this lack of LEN in other contexts as well:

<table>
<thead>
<tr>
<th>Standard:</th>
<th>Gaeilge Chléire</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>i mo bhéal</em></td>
<td><em>im béal</em></td>
</tr>
<tr>
<td><em>i mo phóca</em></td>
<td><em>im póca</em></td>
</tr>
</tbody>
</table>

Here, in the Clear Island dialect, the form *i ‘in’ + mo ‘my’* coalesce as *im* and lenition of /b/ and /p/ does not occur, or more likely /v/ and /f/ were delenited. Something strange happens to words beginning with /m/ in this dialect. Clear Irish treats these as if they actually began with /b/. Thus, this suggests that delenition occurred. The lenited form of both /b/ and /m/ is [v], and hence both were delenited to /b/ probably to avoid the two /m/’s that would have otherwise resulted—

<table>
<thead>
<tr>
<th>Standard:</th>
<th>Gaeilge Chléire</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>i mo mhéon</em></td>
<td><em>im mhéoin</em></td>
</tr>
</tbody>
</table>

The velars, in surnames, display a degree of lenition constraint as well. *Nic*, the feminine unmarried equivalent of *mac* ‘son (of)’, causes LEN unless the following element begins with /k/ and /g/ (Mac Congáil, p. 199; Ó Dónaill, p. 910-911):

\[
\text{Mac Dónaill} \quad [(\text{m})\text{ak } \text{d}u:\text{n}ə\text{ʃ}] \quad \text{Nic Dhónaill} \quad [\text{n}ə\text{ʃ}m \text{u}:\text{n}ə\text{ʃ}] \\
\text{Mac Conraoi} \quad [(\text{m})\text{ak } \text{k}oŋr\text{ɪ}i:] \quad \text{Nic Conraoi} \quad [\text{ŋ}t\text{ʃ}m \text{k}oŋr\text{ɪ}i] \\
#\text{Nic Chonraoi}
\]

and:

\[
\text{Mac Gearailt} \quad [(\text{m})\text{ak } \text{jæːɾəʃl̪t̪}] \quad \text{Nic Gearailt} \quad [\text{ŋt}m \text{jæːɾəʃl̪t̪}]
\]

(In some cases /g/ may undergo LEN):

---

*all Clear Irish from Ó Buachalla (2003), p. 8
*following prepositions, Munster dialects use *meoin*, the dative case of *meon.
*a contraction of *iníon mhic ‘daughter of the son (of)’
*similarly with mhic [(v)nc], the form used for married women
Mac Gearailt  [(m)ək ə:ɾˠəlʲtʰ]  Nic Ghearailt  [ɲɨɾˠəlˠəɾˠəlʲtʰ]

but this is not standard. Like with the dentals, many LEN-block rules operate optionally in the contemporary spoken language.)

Even Old Irish has examples of this constraint in surnames. McCone ((1996), p. 89-90) transcribes the pronunciation of the Ogham inscription (mentioned in section VIII, footnote 5) QRIMITIR RONANN MAQ COMAGANN as /kʰrʲiṽiθir’ rōnān’ ˠak’ xɔ̞voɣân’/. Here the final vowel once present in MAQ(I) triggered LEN on the initial /k/ of COMAGANN. However, now two labial consonants have come together and delenition should occur. He provides the Old Irish form cruimthir Róná(i)n maic Comgá(i)n, undoubtedly representing [krˠiμθʲəɾʲrˠoːnˠaːnʲμac koːmˠaːnʲ]; not #...maic Chomgáin […]mac ʃomˠaːnʲ].

Surprisingly this LEN-blocking accounts also for instances in which NAS does not always occur when expected. Most combinations of preposition and singular definite article trigger NAS, except in Ulster where they usually trigger LEN (LEN almost all the time in Scottish Gaelic). However, in the standard language (Caighdeán) and Conamara dialects, nasalization does not operate on /t/ and /d/ in these contexts, but it does in Munster Irish:

<table>
<thead>
<tr>
<th>Standard/Conamara</th>
<th>Munster</th>
</tr>
</thead>
<tbody>
<tr>
<td>ag an mbó⁶</td>
<td>[ɛɟ ə moː]</td>
</tr>
<tr>
<td>ag an doras</td>
<td>[ɛɟ ə dɔːɾˠəs]</td>
</tr>
<tr>
<td>ag an teach</td>
<td>[ɛɟ ə tʲæːx]</td>
</tr>
</tbody>
</table>

The surface presence of the homorganic nasal /n/ does not impede NAS in other circumstances where it should occur, such as following the question particle an:

| an druigeann tú?  | [ə(nʲ) dɾʲənˠ tuː] | ‘do you understand’ |
| an ndúinthadh tú? | [ə(nʲ) nˠuːnˠ(ʰ)əx tuː] | ‘will you close?’ |

Thus something other than the /n/ of the definite article causes NAS-block in the case of ag an doras and ag an teach, etc.

Actually, the rule of non-nasalization after the preposition-definite article combination, traditionally described as an exception to nasalization rules, is actually non-lenition from a historical viewpoint. After the loss of a distinct accusative case (which featured NAS in the singular), the cases used after prepositions became confused, and different dialects redistributed the NAS.

⁶ the standard language also optionally permits LEN here, as Ulster does by rule: ag an bhó [ɛɟ ə wɔː] ‘at the cow’
associated with accusative case and the LEN associated with dative case in different ways. Therefore, almost any preposition and singular definite article combination can cause either mutation in some dialect. For some reason, although the Conamara dialects (and standard) chose eclipsis for most of these cases (such as with ag ‘at’ above), in the case of words beginning with /t/ and /d/, lenition still applied instead. Thus, the blocking rule that had existed for lenition persisted, even though nasalization occurs on other consonants in the same contexts. Thus it is #ag an dhoras and #ag an dheach which are blocked (i.e. impossible in Irish) and not the eclipsed Munster versions (an an ndoras and ag an dteach). Most preposition and singular article combinations trigger LEN in Ulster Irish so this dialect would also reflect the standard forms in the case of /t/ and /d/. In Munster Irish NAS fully pervaded the system and operates on all mutatable consonants including /t/ and /d/. Hence in Conamara and Caighdeán Irish prepositions and the singular definite article cause a “mixed-mutation”, with LEN applying to dental plosives and NAS to everything else.

It seems counterintuitive that such a rule exists in Modern Irish. Especially since many speakers would not pronounce the /n/ of the definite article in many circumstances, but even more so because lenited /t/ and /d/ and no longer dentals in Irish! The segments /nɣn/ (standard an ghaoth [ən ɣət] ‘the wind’) and /nʰn/ (an hata [ənʰ ʰæːtə] ‘the hat’) are perfectly acceptable in Modern Irish, so what causes the persistence of the lenition blocking? Hypothetically lenition had occurred, but later reversed after the homorganic consonants came in contact due to syncope. Thus, in Old Irish the combinations /nd/ and /nθ/ reverted back to the unlenited /nd/ and /nt/ – see the ad·comaltar example above (p. 96). Therefore, the rule affecting /t/ and /d/ must be viewed as a relic of the time when interdental fricatives existed in Irish. Underlyingly, /ð/ and /θ/ still represent lenited /d/ and /t/ and these then become [ɣ] and [θ] on the surface by a later rule.

In cases where lenition would be expected after the definite article such as the feminine singular nominative and masculine genitive singular, and in combination with certain prepositions (in the standard language only with feminine nouns in this case) /t/ appears before, and in pronunciation replaces, /s/: òs › /t/. This shares an origin with lenition, for the /t/ represents a /d/ (originally part of the article) devoiced due to the /h/ which resulted from lenited /s/. See section XI.
Modern Welsh likewise has some small semblance of lenition blocking. The phoneme /d/ sometimes does not mutate following /s/, (King, p. 19):

\[
\begin{align*}
\text{wythnos diwetha} & \quad [\text{uwi}\theta\text{nno:s}] \quad \text{‘last week’} \\
\text{*wythnos ddiwetha} \\
\text{nos da} & \quad [\text{no:s da:}] \quad \text{‘good night’} \\
\text{*nos dda}
\end{align*}
\]

compare:

\[
\begin{align*}
\text{noswaith dda} & \quad [\text{no:swa\theta\ dda:}] \quad \text{‘good evening’} \\
\end{align*}
\]

but sometimes /d/ does lenite following /s/ (Morgan, p. 60):

\[
\begin{align*}
\text{pais ddu} & \quad [\text{pa\theta\ d\ddot{i}:}] \quad \text{‘black coat’} \\
\text{nos ddistaw} & \quad [\text{no:s d\ddot{i}\text{sta}\ddot{y}]} \quad \text{‘silent night’} \\
\end{align*}
\]

He remarks that this lenition can be “appropriate in occasional syntactic situations” (my approximate paraphrase of the his Welsh). Perhaps relative commonality and frequency of phrases such as nos da and wythnos diwetha allowed a petrified phonological rule to operate, while in other phrases such as nos ddistaw and pais ddu where the adjective is less “connected” to the noun, the regular LEN rule persists.

Morgan (p. 61) provides further evidence of petrified LEN blocking/delenition in Welsh. He states that the place name Y Garreg Coch (which one would expect to be Y Garreg Goch (“the red rock”) with lenition of the adjective following a feminine singular noun) actually represents [ə gare\text{ck} kox]. Where lenition blocking occurs and both consonants become voiceless. However, this phenomenon no longer appears to be active in Modern Welsh. Now I believe the place name to have yielded to paradigmatic pressure, thus it must be Y Garreg Goch\(^7\) [ə gare\text{ck} gox]. Although, dialectically other non-standard pronunciations likely exist.

\(^7\) the only place name I could find on the BBC Wales’ “What’s in a name” site was Carreg Goch. http://www.bbc.co.uk/wales/whatsinaname/
XIII. Conclusion

These in-depth looks into Celtic consonant mutations reveal that the mutations are more than an
arbitrary relic of sound changes, but have had a profound impact on the development of the
Celtic languages and continue to play an active role in grammar. At one stage mutations
occurred word-internally as well, but they became non-productive internally, and now only
occur word-initially and in compounds. New words and even new sounds (wigwam, x-ray,
zebra) are adapted into the system of initial mutations, and innovation still occurs.

Understanding the historical development, both as seen in the oldest attested forms of the languages
and in reconstructions, helps to clarify operations of the initial mutations. For a learner of the
modern languages, the mutations, at first glance, seem to be an illogical and impossible-to-learn
feature of the Celtic languages. Exploring and understanding their historical linguistic
background makes the systems seem much more natural and logical. In fact initial mutations
due to assimilation are not all that strange. Even in spoken English ‘in Boston’ can actually
sound something like [ɪmbɔstən]. Significantly, in Celtic languages the sounds which triggered
the mutations have been lost and the changes themselves carry grammatical information.

Forms of the same word such as ci, chi, gi & nghi and cú, chú & gcú make much more sense when
one sees the system and how formerly phonological alterations, due to assimilation to the
phonetic environment, developed into an important grammatical feature of the languages.

By the way – the Welsh nghath is pronounced as [ŋʰaːθ] and the Irish bhfuil as [wɪlʲ].
# APPENDICES

## i. SÉIMHÍÚ - MODERN CONAMARA IRISH

<table>
<thead>
<tr>
<th>PHONEME</th>
<th>IRISH</th>
<th>PHONOLOGICAL TRANSCRIPTION</th>
<th>ENGLISH GLOSS</th>
<th>PHONEMIC REPRESENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Labial Series:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( p' )</td>
<td>peann</td>
<td>[( p'\text{æ}:n' )]</td>
<td>'pen'</td>
<td>/( p'\text{a}:N/ )</td>
</tr>
<tr>
<td>a pheann</td>
<td>[( \text{æ}:\text{pæ}:n' )]</td>
<td>'his pen'</td>
<td>/( \text{a ':pæ}:N/ )</td>
<td></td>
</tr>
<tr>
<td>( p )</td>
<td>póg</td>
<td>[( \text{p}:\text{ø}:g )]</td>
<td>'kiss'</td>
<td>/( \text{p}:\text{ø}:g/ )</td>
</tr>
<tr>
<td>a phóg</td>
<td>[( \text{æ}:\text{p}:\text{ø}:g )]</td>
<td>'his kiss'</td>
<td>/( \text{a ':p}:\text{ø}:g/ )</td>
<td></td>
</tr>
<tr>
<td>( b' )</td>
<td>beach</td>
<td>[( b'\text{æ}:\text{x} )]</td>
<td>'bee'</td>
<td>/( b'\text{æ}:\text{x}/ )</td>
</tr>
<tr>
<td>a bheach</td>
<td>[( \text{æ}:\text{b}:\text{æ}:\text{x} )]</td>
<td>'his bee'</td>
<td>/( \text{a ':b}:\text{æ}:\text{x}/ )</td>
<td></td>
</tr>
<tr>
<td>( b )</td>
<td>bó</td>
<td>[( \text{b}:\text{o}: )]</td>
<td>'cow'</td>
<td>/( \text{b}:\text{o}/ )</td>
</tr>
<tr>
<td>a bhó</td>
<td>[( \text{æ}:\text{b}:\text{o}: )]</td>
<td>'his cow'</td>
<td>/( \text{a ':b}:\text{o}/ )</td>
<td></td>
</tr>
<tr>
<td>( f' )</td>
<td>feall</td>
<td>[( f'\text{æ}:\text{l} )]</td>
<td>'treachery'</td>
<td>/( f'\text{æ}:\text{l}/ )</td>
</tr>
<tr>
<td>a fheall</td>
<td>[( (\text{o}):\text{æ}:\text{l} )]</td>
<td>'his treachery'</td>
<td>/( \text{a ':o}:\text{æ}:\text{l}/ )</td>
<td></td>
</tr>
<tr>
<td>( f )</td>
<td>fuinneo(i)g</td>
<td>[( f'\text{ø}:\text{i}:\text{o}:\text{j} )]</td>
<td>'window'</td>
<td>/( f'\text{ø}:\text{i}:\text{o}:\text{j}/ )</td>
</tr>
<tr>
<td>a fhuinneo(i)g</td>
<td>[( (\text{o}):\text{ø}:\text{i}:\text{o}:\text{j} )]</td>
<td>'his window'</td>
<td>/( \text{a ':o}:\text{i}:\text{o}:\text{j}/ )</td>
<td></td>
</tr>
<tr>
<td>( m' )</td>
<td>mic</td>
<td>[( m'\text{i}:\text{c} )]</td>
<td>'sons'</td>
<td>/( m'\text{i}:\text{k}/ )</td>
</tr>
<tr>
<td>a mhic</td>
<td>[( \text{æ}:\text{m}:\text{i}:\text{c} )]</td>
<td>'his sons'</td>
<td>/( \text{a ':m}:\text{i}:\text{k}/ )</td>
<td></td>
</tr>
<tr>
<td>( m )</td>
<td>madadh</td>
<td>[( m\text{ad}:\text{ø} )]</td>
<td>'dog'</td>
<td>/( m\text{ad}:\text{ø}/ )</td>
</tr>
<tr>
<td>a mhadadh</td>
<td>[( \text{æ}:\text{m}:\text{ad}:\text{ø} )]</td>
<td>'his dog'</td>
<td>/( \text{a ':m}:\text{ad}:\text{ø}/ )</td>
<td></td>
</tr>
<tr>
<td><strong>Dental Series:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( t' )</td>
<td>teach</td>
<td>[( t'\text{æ}:\text{x} )]</td>
<td>'house'</td>
<td>/( t'\text{æ}:\text{x}/ )</td>
</tr>
<tr>
<td>a theach</td>
<td>[( \text{æ}:\text{t}:\text{æ}:\text{x} )]</td>
<td>'his house'</td>
<td>/( \text{a ':t}:\text{æ}:\text{x}/ )</td>
<td></td>
</tr>
</tbody>
</table>

---

1. C' is a traditional notation for a palatalized consonant.
### Conroy Mutations

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tí</td>
<td>[t̪iː]</td>
<td>‘houses’</td>
<td>/t̪iː:/</td>
</tr>
<tr>
<td>a thí</td>
<td>[ˠo hiː]</td>
<td>‘his houses’</td>
<td>/a h̬iː:/</td>
</tr>
<tr>
<td>t</td>
<td>talamh</td>
<td>[təl̪ˠə]</td>
<td>‘land’</td>
</tr>
<tr>
<td>a thalamh</td>
<td>[həl̪ˠə]</td>
<td>‘his land’</td>
<td>/a haləv/</td>
</tr>
<tr>
<td>d’</td>
<td>deoch</td>
<td>[d̪oːx]</td>
<td>‘drink’</td>
</tr>
<tr>
<td>a dheoch</td>
<td>[ʃ oːx̪]</td>
<td>‘his drink’</td>
<td>/a y’ox/</td>
</tr>
<tr>
<td>d</td>
<td>doras</td>
<td>[d̪oːɾ̪ˠə]</td>
<td>‘door’</td>
</tr>
<tr>
<td>a dhoras</td>
<td>[ʃ oːɾ̪ˠə]</td>
<td>‘his door’</td>
<td>/a yorəs/</td>
</tr>
<tr>
<td>s’</td>
<td>síoda</td>
<td>[ʃiːd̪a]</td>
<td>‘silk’</td>
</tr>
<tr>
<td>a shíoda</td>
<td>[ʃiːd̪a]</td>
<td>‘his silk’</td>
<td>/a hiːd̪a/</td>
</tr>
<tr>
<td>seol</td>
<td>[ʃoːl̪ˠ]</td>
<td>‘sail’</td>
<td>/s’oːl/</td>
</tr>
<tr>
<td>a sheol</td>
<td>[ʃoːl̪ˠ]</td>
<td>‘his sail’</td>
<td>/a h’oːl/</td>
</tr>
<tr>
<td>s</td>
<td>súil</td>
<td>[ʃuːl̪ˠ]</td>
<td>‘eye’</td>
</tr>
<tr>
<td>a shúil</td>
<td>[ʃuːl̪ˠ]</td>
<td>‘his eye’</td>
<td>/a h’uːl/</td>
</tr>
<tr>
<td>scéal</td>
<td>[ʃkeːl̪ˠ]</td>
<td>‘story’</td>
<td>/s’keːl/</td>
</tr>
<tr>
<td>a scéal</td>
<td>[ʃkeːl̪ˠ]</td>
<td>‘his story’</td>
<td>/a s’keːl/</td>
</tr>
</tbody>
</table>

/s(’)C: 
/sk-/, /sp-/, /st-/, /sm-/: no lenition (sometimes /sm-/ in Munster, i.e. do shmaoiníos [d̪ə hmiːnʲiːs] ‘I thought’)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>slabh</td>
<td>[ʃl̪ˠiːw̪]</td>
<td>‘mountain’</td>
<td>/ʃl’iːw̪/</td>
</tr>
<tr>
<td>a shliabh</td>
<td>[ʃl̪ˠiːw̪]</td>
<td>‘his mountain’</td>
<td>/a h’l’iːw̪/</td>
</tr>
<tr>
<td>L’</td>
<td>leon</td>
<td>[ʃl̪ˠoːn̪ˠ]</td>
<td>‘lion’</td>
</tr>
<tr>
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<td>[ʃl̪ˠoːn̪ˠ]</td>
<td>‘his lion’</td>
<td>/a l’oːn/</td>
</tr>
<tr>
<td>L ²</td>
<td>laoch</td>
<td>[ʃl̪ˠiːx̪]</td>
<td>‘hero’</td>
</tr>
<tr>
<td>a laoch</td>
<td>[ʃl̪ˠiːx̪]</td>
<td>‘his hero’</td>
<td>/a l’iːx/</td>
</tr>
</tbody>
</table>

² non-palatal /L/, /R/, /N/ do not lenite in Conamara Irish. They did in Old Irish and still can in Mayo, Ulster and Scottish dialects. See appendix viii. on /l, r, n/ in Goidelic.
<table>
<thead>
<tr>
<th>Conroy Mutations</th>
<th>Appendices - 105 -</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R´</strong></td>
<td></td>
</tr>
<tr>
<td>rí</td>
<td>[ɾʲiː]</td>
</tr>
<tr>
<td>a rí</td>
<td>[ə ɾʲiː]</td>
</tr>
<tr>
<td><strong>R</strong></td>
<td></td>
</tr>
<tr>
<td>rothar</td>
<td>[ɾʰoːˈhærˠ]</td>
</tr>
<tr>
<td>a rothar</td>
<td>[ə ɾʰoːˈhærˠ]</td>
</tr>
<tr>
<td><strong>N´</strong></td>
<td></td>
</tr>
<tr>
<td>neart</td>
<td>[nʲeːˈɾʲt]</td>
</tr>
<tr>
<td>a neart</td>
<td>[ə nʲeːˈɾʲt]</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td></td>
</tr>
<tr>
<td>náisiún</td>
<td>[nʲaːˈʃuːnˠ]</td>
</tr>
<tr>
<td>a náisiún</td>
<td>[ə nʲaːˈʃuːnˠ]</td>
</tr>
</tbody>
</table>

**Velar Series:**

| k´                |                   |
| ceol              | [coːˈlˠ]          | ‘music’         | /kˠoːl/        |
| a cheol           | [ə ɕoːˈlˠ]        | ‘his music’     | /a ɕoːl/      |
| k                 |                   |
| cú                 | [kuː]             | ‘hound’         | /kuː/         |
| a chú             | [ə xuː]           | ‘his hound’     | /a xuː/       |
| g´                 |                   |
| geata             | [ʝæːtə]          | ‘gate’          | /gˠətə/       |
| a gheata          | [ə ʝæːtə]        | ‘his gate’      | /a ʝətə/     |
| g                 |                   |
| gabhar            | [ɡaːɾˠə]         | ‘goat’          | /gʷəɾˠə/     |
| a ghabhar         | [ə ɣaːɾˠə]       | ‘his goat’      | /a ɣəɾˠə/   |

**Vowel:**

| jV                |                   |
| eolas             | [oːˈloːs]         | ‘knowledge’     | /joːlːs/      |
| a eolas           | [(ə) oːˈloːs]     | ‘his knowledge’| /a joːlːs/ |
| V                 |                   |
| úll               | [uːˈlˠ]          | ‘apple’         | /uːL/        |
| a úll             | [(ə) uːˈlˠ]      | ‘his apple’     | /a uːL/     |
### ii. URÚ - MODERN CONAMARA IRISH

<table>
<thead>
<tr>
<th>PHONEME</th>
<th>IRISH</th>
<th>PHONEMICAL TRANSCRIPTION</th>
<th>ENGLISH GLOSS</th>
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<td>/a daːlə/</td>
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<tr>
<td>Conroy Mutations</td>
<td>Appendices - 107 -</td>
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<td>‘their hero’</td>
<td>/a Liːx/</td>
</tr>
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<td>‘bike’</td>
<td>/Rohor/</td>
</tr>
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<td>[o rʰɔʰarʲ]</td>
<td>‘their bike’</td>
<td>/a Rohor/</td>
</tr>
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<td><strong>N´</strong></td>
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<td>[nʲɛːr'nʲt]</td>
<td>‘strength’</td>
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</tr>
<tr>
<td></td>
<td>a neart</td>
<td>[o nʲɛːr'nʲt]</td>
<td>‘their strength’</td>
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</tr>
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<td><strong>N</strong></td>
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<td>‘nation’</td>
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<tr>
<td></td>
<td>a náisíún</td>
<td>[o nʲaːʃuːn']</td>
<td>‘their nation’</td>
<td>/a Naːʃuːn/</td>
</tr>
</tbody>
</table>

**Velar Series:**

| | | | |
|------------------|-------------------|
| **k´** | ceol | [koːl'] | ‘music’ | /k'ɔːl/ |
| | a gceol | [o ɡoːl'] | ‘their music’ | /a ɡ'ɔːl/ |
| **k** | cú | [kuː] | ‘hound’ | /kuː/ |
| | a gcú | [o guː] | ‘their hound’ | /a guː/ |
Conroy Mutations

| g | geata | [ xe:ta ] | 'gate' | /g'ata/ |
|   | a ngeata | [ o nx'eta ] | 'their gate' | /a n'ata/ |
| g | gabhar | [ gauɾ ] | 'goat' | /gavor/ |
|   | a ngabhar | [ o n'auɾ ] | 'their goat' | /a navor/ |

Vowel:

| jV | eolas | [ o:l os ] | 'knowledge' | /jo:l os/ |
|    | a n-eolas | [ o nx'o:l os ] | 'their knowledge' | /a Njo:l os/ |
| V  | ull | [ u:l ] | 'apple' | /u:L/ |
|    | a n-ull | [ o nx'u:l ] | 'their apple' | /a Nu:L/ |

* in some East Galway and Clear Island (in Cork) dialects there is an eclipsis of [s]→[z], [ʃ]→[j] (or [ʒ] ~ [ʤ]):

(Ó Siadhail, Modern Irish p. 114; also see Ó Tuathail 1939, p. 283-284)

| a síoda | [ o ji:do ] | 'their silk' | /a z'i:do/ |
| a seol  | [ o jo:l ] | 'their sail' | /a zo:l/ |
| a súil  | [ o zu:l ] | 'their eye' | /a zu:l/ |
### iii. *Treiglad Meddal–Modern (South-Western) Welsh*

<table>
<thead>
<tr>
<th>PHONEME</th>
<th>WELSH</th>
<th>PHONOLOGICAL TRANSCRIPTION</th>
<th>ENGLISH GLOSS</th>
<th>PHONEMIC REPRESENTATION</th>
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</tr>
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<td><em>penn</em></td>
<td>[pen]</td>
<td>‘head’</td>
<td>/pen/</td>
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<tr>
<td></td>
<td><em>ei benn (e)</em></td>
<td>[i: ben (e)]</td>
<td>‘his head’</td>
<td>/i: ben (e)/</td>
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<tr>
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<td><em>brawd</em></td>
<td>[braʊd]</td>
<td>‘brother’</td>
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</tr>
<tr>
<td></td>
<td><em>ei frawd (e)</em></td>
<td>[i: vraʊd (e)]</td>
<td>‘his brother’</td>
<td>/i: vrawd (e)/</td>
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</tr>
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<td></td>
<td><em>ei ffarm (e)</em></td>
<td>[i: farm (e)]</td>
<td>‘his farm’</td>
<td>/i: farm (e)/</td>
</tr>
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<td>‘mother’</td>
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<td>‘his mother’</td>
<td>/i: vam (e)/</td>
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<td>[videjo:]</td>
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<td>/video:/</td>
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<td>‘his video’</td>
<td>/i: video: (e)/</td>
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<td><strong>Dental Series:</strong></td>
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<td>/tad/</td>
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<td>‘his store’</td>
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<td>‘his arrow’</td>
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<td>Conroy Mutations</td>
<td>Appendices - 110 -</td>
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<td>‘his alarm’</td>
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<td></td>
<td>‘parents’</td>
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</tr>
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<td>‘his snakes’</td>
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<td>/i: nadrᵋð (e)/</td>
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</tbody>
</table>

**Velar Series:**

|      | kiː            |
|      | ‘dog’          |
|      | /kiː/          |
| ei gi (fe) | [i: giː (ve)]  |
|      | ‘his dog’      |
|      | /iː giː (ve)/  |
|      | gwlaːd         |
|      | ‘land’         |
|      | /gwlaːd/       |
| ei wlad (e) | [iː wlaːd (e)] |
|      | ‘his land’     |
|      | /iː wlaːd (e)/ |
|      | χₙₕaːr<sup>4</sup> |
|      | ‘sister’       |
|      | /χₙₕair/       |
| ei χₙₕaːr (e) | [iː χₙₕair (e)]|
|      | ‘his sister’   |
|      | /iː χₙₕair (e)/|

**Vowel:**

|      | jaɪθ          |
|      | ‘language’     |
|      | /jaɪθ/        |
| ei jaɪθ (e) | [iː jaɪθ (e)] |
|      | ‘his language’|
|      | /iː jaɪθ (e)/ |
|      | aːval         |
|      | ‘apple’        |
|      | /aːval/       |
| ei aːval (e) | [iː aːval (e)]|
|      | ‘his apple’    |
|      | /iː aːval (e)/|

**Other:**

|      | heðuχ         |
|      | ‘peace’        |
|      | /heðuχ/       |
| ei heðuχ (e) | [iː heðuχ (e)]|
|      | ‘his peace’    |
|      | /iː heðuχ (e)/|

---

<sup>3</sup> loan words only
<sup>4</sup> also [aːær]
### Labial Series:

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Welsh</th>
<th>Phonological TRANSCRIPTION</th>
<th>English GLOSS</th>
<th>Phonemic REPRESENTATION</th>
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</thead>
<tbody>
<tr>
<td><strong>p</strong></td>
<td>penna</td>
<td>[pen]</td>
<td>'head'</td>
<td>/pen/</td>
</tr>
<tr>
<td></td>
<td>fy mhenn (i)</td>
<td>[və mɛn (i:)]</td>
<td>'my head'</td>
<td>/və mɛn (i:)/</td>
</tr>
<tr>
<td><strong>b</strong></td>
<td>brawd</td>
<td>[brau̯d]</td>
<td>'brother'</td>
<td>/brawd/</td>
</tr>
<tr>
<td></td>
<td>fy mrawd (i)</td>
<td>[və mrau̯d (i:)]</td>
<td>'my brother'</td>
<td>/və mrawd (i:)/</td>
</tr>
<tr>
<td><strong>f</strong></td>
<td>ffarm</td>
<td>[farm]</td>
<td>'farm'</td>
<td>/farm/</td>
</tr>
<tr>
<td></td>
<td>fy ffarm (i)</td>
<td>[və farm (i:)]</td>
<td>'my farm'</td>
<td>/və farm (i:)/</td>
</tr>
<tr>
<td><strong>m</strong></td>
<td>mam</td>
<td>[maːm]</td>
<td>'mother'</td>
<td>/mam/</td>
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<tr>
<td></td>
<td>fy mam (i)</td>
<td>[və maːm (i:)]</td>
<td>'my mother'</td>
<td>/və mam (i:)/</td>
</tr>
<tr>
<td><strong>v</strong></td>
<td>fideo</td>
<td>[videjoː]</td>
<td>'video'</td>
<td>/videjo:/</td>
</tr>
<tr>
<td></td>
<td>fy fideo (i)</td>
<td>[və videjoː (i:)]</td>
<td>'my video'</td>
<td>/və videjoː (i:)/</td>
</tr>
</tbody>
</table>

### Dental Series:

<table>
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<tr>
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<th>Welsh</th>
<th>Phonological TRANSCRIPTION</th>
<th>English GLOSS</th>
<th>Phonemic REPRESENTATION</th>
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</thead>
<tbody>
<tr>
<td><strong>t</strong></td>
<td>tad</td>
<td>[taːd]</td>
<td>'father'</td>
<td>/tad/</td>
</tr>
<tr>
<td></td>
<td>fy nhad (i)</td>
<td>[və nəd (i:)]</td>
<td>'my father'</td>
<td>/və nəd (i:)/</td>
</tr>
<tr>
<td><strong>d</strong></td>
<td>dinas</td>
<td>[dinas]</td>
<td>'city'</td>
<td>/dinas/</td>
</tr>
<tr>
<td></td>
<td>fy ninas (i)</td>
<td>[və ninas (i:)]</td>
<td>'my city'</td>
<td>/və ninas (i:)/</td>
</tr>
<tr>
<td><strong>sj</strong></td>
<td>siop</td>
<td>[ʃop]</td>
<td>'store'</td>
<td>/ʃop/</td>
</tr>
<tr>
<td></td>
<td>fy siop (i)</td>
<td>[və ʃop (i:)]</td>
<td>'my store'</td>
<td>/və ʃop (i:)/</td>
</tr>
<tr>
<td><strong>s</strong></td>
<td>saeth</td>
<td>[sæθ]</td>
<td>'arrow'</td>
<td>/sæθ/</td>
</tr>
<tr>
<td></td>
<td>fy saeth (i)</td>
<td>[və sæθ (i:)]</td>
<td>'my arrow'</td>
<td>/və sæθ (i:)/</td>
</tr>
<tr>
<td><strong>l</strong></td>
<td>llyfr</td>
<td>[ɬɪvr]</td>
<td>'book'</td>
<td>/ɬɪvr/</td>
</tr>
<tr>
<td></td>
<td>fy llyfr (i)</td>
<td>[və ɬɪvr (i:)]</td>
<td>'my book'</td>
<td>/və ɬɪvr (i:)/</td>
</tr>
</tbody>
</table>

---

5 *fy [və] colloquially pronounced [ə] or Ø. Before a vowel or unmutatable consonants it becomes [ən]*
<table>
<thead>
<tr>
<th>Conroy Mutations</th>
<th>Appendices - 112 -</th>
</tr>
</thead>
<tbody>
<tr>
<td>l ^6 larwm</td>
<td>[larum]</td>
</tr>
<tr>
<td>fy larwm (i)</td>
<td>[və larum (i:)]</td>
</tr>
<tr>
<td>ŋ rhieni</td>
<td>[ŋʰi:jeni:]</td>
</tr>
<tr>
<td>fy rhieni (ũ)</td>
<td>[və ŋʰi:jeni: (vi:)]</td>
</tr>
<tr>
<td>r ^3 roced</td>
<td>[roked]</td>
</tr>
<tr>
<td>fy roced (i)</td>
<td>[və roked (i:)]</td>
</tr>
<tr>
<td>n nadredd</td>
<td>[nadredd]</td>
</tr>
<tr>
<td>fy nadredd (i)</td>
<td>[və nadreð (i:)]</td>
</tr>
<tr>
<td>Velar Series:</td>
<td></td>
</tr>
<tr>
<td>k ci</td>
<td>[ki:]</td>
</tr>
<tr>
<td>fy nghi (ũi)</td>
<td>[və ŋʰi: (vi:)]</td>
</tr>
<tr>
<td>g gwlad</td>
<td>[gwla:d]</td>
</tr>
<tr>
<td>fy wlad (i:)</td>
<td>[və ŋwla:d (i:)]</td>
</tr>
<tr>
<td>x chwaer</td>
<td>[χwaːr]</td>
</tr>
<tr>
<td>fy chwaer (i:)</td>
<td>[və(n) χwaːr (i:) ]</td>
</tr>
<tr>
<td>Vowel:</td>
<td></td>
</tr>
<tr>
<td>jV iaith</td>
<td>[jaiθ]</td>
</tr>
<tr>
<td>fy iaith (i:)</td>
<td>[və jaiθ (i:)]</td>
</tr>
<tr>
<td>V afal</td>
<td>[a:val]</td>
</tr>
<tr>
<td>fy afal (i:)</td>
<td>[və(n) a:val (i:)]</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
<tr>
<td>h heddwch</td>
<td>[heðuχ]</td>
</tr>
<tr>
<td>fy heddwch (i:)</td>
<td>[və heðuχ (i:)]</td>
</tr>
</tbody>
</table>

---

^6 loan words only

^7 also [ɔːr] 

^8 fy may be pronounced [(v)an] before vowels and unmutatable consonants. The final /n/ may originate, like the Irish prevocalic /n/ of ured to the nasal mutation.
v. *Treiglad Llaes* Modern (South-Western) Welsh

<table>
<thead>
<tr>
<th>PHONEME</th>
<th>WELSH</th>
<th>PHONETICAL TRANSCRIPTION</th>
<th>ENGLISH GLOSS</th>
<th>PHONEMICAL REPRESENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Labial Series:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>penn</td>
<td>[pen]</td>
<td>‘head’</td>
<td>/pen/</td>
</tr>
<tr>
<td></td>
<td><em>ei phenn (hi)</em></td>
<td>[i: fen (hi:)]</td>
<td>‘her head’</td>
<td>/i: fen (hi:)/</td>
</tr>
<tr>
<td>b</td>
<td>brawd</td>
<td>[braʊd]</td>
<td>‘brother’</td>
<td>/brawd/</td>
</tr>
<tr>
<td></td>
<td><em>ei brawd (hi)</em></td>
<td>[i: braʊd (hi:)]</td>
<td>‘her brother’</td>
<td>/i: brawd (hi:)/</td>
</tr>
<tr>
<td>f</td>
<td>ffarm</td>
<td>[farm]</td>
<td>‘farm’</td>
<td>/farm/</td>
</tr>
<tr>
<td></td>
<td><em>ei ffarm (hi)</em></td>
<td>[i: farm (hi:)]</td>
<td>‘her farm’</td>
<td>/i: farm (hi:)/</td>
</tr>
<tr>
<td>m</td>
<td>mam</td>
<td>[ma:m]</td>
<td>‘mother’</td>
<td>/mam/</td>
</tr>
<tr>
<td></td>
<td><em>ei mam (hi)</em></td>
<td>[i: ma:m (hi:)]</td>
<td>‘her mother’</td>
<td>/i: mam (hi:)/</td>
</tr>
<tr>
<td>v</td>
<td><em>fideo</em></td>
<td>[videjo:]</td>
<td>‘video’</td>
<td>/video:/</td>
</tr>
<tr>
<td></td>
<td><em>ei fideo (hi)</em></td>
<td>[i: video: (hi:)]</td>
<td>‘her video’</td>
<td>/i: video: (hi:)/</td>
</tr>
<tr>
<td><strong>Dental Series:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>tad</td>
<td>[ta:d]</td>
<td>‘father’</td>
<td>/tad/</td>
</tr>
<tr>
<td></td>
<td><em>ei thad (hi)</em></td>
<td>[i: θa:d (hi:)]</td>
<td>‘her father’</td>
<td>/i: θad (hi:)/</td>
</tr>
<tr>
<td>d</td>
<td>dinas</td>
<td>[dinas]</td>
<td>‘city’</td>
<td>/dinas/</td>
</tr>
<tr>
<td></td>
<td><em>ei dinas (hi)</em></td>
<td>[i: dinas (hi:)]</td>
<td>‘her city’</td>
<td>/i: dinas (hi:)/</td>
</tr>
<tr>
<td>sj</td>
<td>siop</td>
<td>[ʃop]</td>
<td>‘store’</td>
<td>/ʃop/</td>
</tr>
<tr>
<td></td>
<td><em>ei siop (hi)</em></td>
<td>[i: ʃop (hi:)]</td>
<td>‘her store’</td>
<td>/i: ʃop (hi:)/</td>
</tr>
<tr>
<td>s</td>
<td>saeth</td>
<td>[saiθ]</td>
<td>‘arrow’</td>
<td>/saiθ/</td>
</tr>
<tr>
<td></td>
<td><em>ei saeth (hi)</em></td>
<td>[i: saiθ (hi:)]</td>
<td>‘her arrow’</td>
<td>/i: saiθ (hi:)/</td>
</tr>
<tr>
<td>l</td>
<td>llyfr</td>
<td>[ɬɪvr]</td>
<td>‘book’</td>
<td>/ɬɪvr/</td>
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<tr>
<td></td>
<td><em>ei llyfr (hi)</em></td>
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<td>‘her book’</td>
<td>/i: ɬɪvr (hi:)/</td>
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<tr>
<td>Loanword</td>
<td>Description</td>
<td>Pronunciation</td>
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<td></td>
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<tr>
<td>----------</td>
<td>-------------</td>
<td>---------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>larwm</td>
<td>'alarm'</td>
<td>/larum/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ei larwm (hi)</td>
<td>'her alarm'</td>
<td>/i: larum (hi)/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rhieni</td>
<td>'parents'</td>
<td>/ri:eni:/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ei rhieni (hi)</td>
<td>'her parents'</td>
<td>/i: ri:eni: (hi)/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>roced</td>
<td>'rocket'</td>
<td>/roked/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ei roced (hi)</td>
<td>'her rocket'</td>
<td>/i: roked (hi)/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nadredd</td>
<td>'snakes'</td>
<td>/nadreð/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ei nadredd (hi)</td>
<td>'her snakes'</td>
<td>/i: nadreð (hi)/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Velar Series:

<table>
<thead>
<tr>
<th>Velar</th>
<th>Description</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>k</td>
<td>'dog'</td>
<td>/ki:/</td>
</tr>
<tr>
<td>ei chi (hi)</td>
<td>'her dog'</td>
<td>/i: χi: (hi)/</td>
</tr>
<tr>
<td>g</td>
<td>'land'</td>
<td>/gwlad/</td>
</tr>
<tr>
<td>ei gwlad (hi:)</td>
<td>'her land'</td>
<td>/i: gwlad (hi)/</td>
</tr>
<tr>
<td>x</td>
<td>'sister'</td>
<td>/χwair/</td>
</tr>
<tr>
<td>ei chwaer (hi:)</td>
<td>'her sister'</td>
<td>/i: χwair (hi)/</td>
</tr>
</tbody>
</table>

### Vowel:

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Description</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>jV</td>
<td>'language'</td>
<td>/jaiθ/</td>
</tr>
<tr>
<td>ei hiaith (hi:)</td>
<td>'her language'</td>
<td>/i: hjaiaθ (hi)/</td>
</tr>
<tr>
<td>V</td>
<td>'apple'</td>
<td>/aval/</td>
</tr>
<tr>
<td>ei hafal (hi:)</td>
<td>'her apple'</td>
<td>/i: ha:val (hi)/</td>
</tr>
</tbody>
</table>

### Other:

<table>
<thead>
<tr>
<th>Other</th>
<th>Description</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>h</td>
<td>'peace'</td>
<td>/heðuχ/</td>
</tr>
<tr>
<td>ei heddwch (hi:)</td>
<td>'her peace'</td>
<td>/i: heðuχ (hi)/</td>
</tr>
</tbody>
</table>

---

9 loan words only  
10 also [ʍa:r]  
11 ei 'her' also prefixes [h] to vowels
### vi. LENITION FOLLOWING THE COPULA

#### Old Irish

Leniting forms of the Old Irish copula, adapted from Stifter, p. 386

<table>
<thead>
<tr>
<th></th>
<th>Present (Conjunct)</th>
<th>Past (preterit &amp; imperfect)</th>
<th>Augmented past</th>
<th>Future</th>
<th>Conditional</th>
</tr>
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<tbody>
<tr>
<td>1SG</td>
<td>-ta / -da&lt;sup&gt;12&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2SG</td>
<td>-ta/ da</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3SG</td>
<td>*</td>
<td>-bu, -bo&lt;sup&gt;13&lt;/sup&gt;</td>
<td>-robo, -robu,</td>
<td></td>
<td>bed, robad,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-rbo, -rbu</td>
<td></td>
<td>-bad</td>
</tr>
<tr>
<td>3SG REL.</td>
<td>as?</td>
<td></td>
<td></td>
<td></td>
<td>bes, bas</td>
</tr>
<tr>
<td>1PL</td>
<td>-tan / -dan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2PL</td>
<td>-tad / -dad</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3PL</td>
<td>-tat / -dat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3PL REL.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>beta, bat</td>
</tr>
</tbody>
</table>

**Copular LEN continued…**

<table>
<thead>
<tr>
<th></th>
<th>Imperative</th>
<th>Present subjunctive</th>
<th>Past subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td></td>
<td>-ba</td>
<td></td>
</tr>
<tr>
<td>2SG</td>
<td></td>
<td>ba</td>
<td></td>
</tr>
<tr>
<td>3SG</td>
<td></td>
<td>bed, bad, -bad</td>
<td>bed, bad, bid</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-bed, -bad</td>
</tr>
<tr>
<td>3SG REL.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1PL</td>
<td></td>
<td>baan, ban</td>
<td></td>
</tr>
<tr>
<td>2PL</td>
<td></td>
<td>bed, bad, -bad</td>
<td></td>
</tr>
<tr>
<td>3PL</td>
<td>(-) bat</td>
<td>robat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-bat</td>
<td></td>
</tr>
<tr>
<td>3PL REL.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*no LEN with the negative *ní*, but in certain combinations it does lenite, e.g. combinations with *cías* ‘although’ - *cesu, ceso, ciasu, ciaso, ceto, cetu*; and *má* ‘if’ - *maso, masu, matu*

---

<sup>12</sup> t / d variation is simply orthographic

<sup>13</sup> <p> also found in place of <b> throughout the copula; [b] is still meant
Conroy Mutations

A few examples (GOI §495):

\[
\text{do rétaib ata } \text{chosmaili} \quad \{\text{cosmaili}\} \quad [\text{do } \text{ɾʲeːtʰəɾ adə xɔsmaɪli}]
\]

‘of things that are similar’

\[
\text{nech bed } \text{chare} \quad \{\text{car(a)e}\} \quad [\text{n̺ɛx bed xaɾʲe}]\]

‘anyone that was a friend’

Variation does exist, compare (from GOI §233.1):

\[
\text{bès ni-bat } \text{chutrummi} \quad \{\text{cutrummi}\} \quad [\text{bʲeːs n̺iːˈbad xudɾumjɨ}]\]

‘perhaps they are not equal’

vs.

\[
\text{ni-tat cosmili} \quad [\text{n̺iːˈtad cosμɔli}]\]

‘they are not alike’

Middle Welsh

Soft mutation occurs after the following forms of the verb ‘to be’ in Middle Welsh:
(from Evans GMW, §21; examples Ibid.)

<table>
<thead>
<tr>
<th>Form</th>
<th>Middle Welsh</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SG present indicative</td>
<td>oes [ojís]</td>
</tr>
<tr>
<td></td>
<td>yssit [ɔsid]</td>
</tr>
<tr>
<td>3SG consuetudinal present</td>
<td>bit, byd (rare)</td>
</tr>
<tr>
<td></td>
<td>[bid] / [bʲid?]</td>
</tr>
<tr>
<td>3SG imperfect</td>
<td>oed [ojð]</td>
</tr>
<tr>
<td>3SG consuetudinal past</td>
<td>bydei [boðeɪ]</td>
</tr>
<tr>
<td>3SG preterit</td>
<td>bu [bu]</td>
</tr>
<tr>
<td>3SG present subjunctive</td>
<td>bo <a href="rare">bo</a></td>
</tr>
<tr>
<td>3SG imperfect subjunctive</td>
<td>bei [beɪ]</td>
</tr>
</tbody>
</table>

A few examples:

\[
\text{nyt oes } \text{bont arnei hitheu} \quad \{\text{pont}\} \quad [\text{nid oʃs bont arnei hɪθeʊ}]
\]

‘there is not a bridge over it’

\[
\text{gwaeth uu } \text{drafferth y deu hymny} \quad \{\text{trafferth}\} \quad [\text{gwʌθəʊ nu dɾaʃerθ ɔ deɲˈhɔniː}]\]

‘worse was the plight of those two’
vii. **NOTES ON THE TRANSCRIPTIONS**

**Irish:**

The transcriptions of Modern Irish generally follow the Conamara Irish, often drawing from the *Cois Fhailrge* dialect (west of Galway city from *Bearna* to *Cuan Chasla*) from the works of Ó Siadhail and de Bhaldraithe. My own transcriptions reflect this dialect and the dialect of neighbouring *An Cheathrú Rua* (from *Cuan Chasla* to *Cuan an Fhir Mhóir*). I occasionally use non-standard forms which better reflects the dialectal pronunciation and grammar.

Irish distinguishes between palatalized and non-palatalized consonants; natively referred to as *caol* [kiːlˠ] ‘slender’ and *leathan* [l̺æː(ha)nˠ] ‘broad’ respectively. Non-palatal phonemes (with the exception of /l/, /r/ and /n/; see below) are unmarked for velarization. In a stricter transcription they would be marked Cˠ or in some cases Cʷ. Celticsits traditionally denote palatal consonants by Cʲ. I have usually marked them, using IPA as Cʲ, except for the velars for which I have transcribed as palatalals rather than as palatalized velars, i.e. [c], [j], and [ç] rather than [kʲ], [gʲ] and [xʲ]. Free variation exists across dialects between the two. Additionally, the palatalized dental stops [tʲ] and [dʲ] of Connacht commonly correspond to the affricates [ʧ] and [ʤ] in Ulster and Mayo and to the alveolar stops [t̺] and [d̺] in Munster (as opposed to the dental broad consonants—[tˠ] and [dˠ] everywhere). [ʃ] represents the palatal counterpart of [s].

Liquids and nasals in Irish have tense (unlenited) and lax (lenited) variants. In the traditional system for Irish capitals signify unlenited tense consonants:

<table>
<thead>
<tr>
<th>/L/</th>
<th>/L'/</th>
<th>/l/</th>
<th>/l'/</th>
</tr>
</thead>
<tbody>
<tr>
<td>[lʲ]</td>
<td>[lˠ]</td>
<td>[lˠ]</td>
<td>[lˠ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/R/</th>
<th>/R'/</th>
<th>/ɾ/</th>
<th>/ɾ'/</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ɾʲ]</td>
<td>[ɾˠ]</td>
<td>[ɾˠ]</td>
<td>[ɾˠ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/N/</th>
<th>/N'/</th>
<th>/n/</th>
<th>/n'/</th>
</tr>
</thead>
<tbody>
<tr>
<td>[nʲ]</td>
<td>[nˠ]</td>
<td>[nˠ]</td>
<td>[nˠ]</td>
</tr>
</tbody>
</table>

(Čʲ represents an alveo-palatal)
Modern Irish/Scottish dialects reduce this system to varying extents. The Conamara dialect used here, for example, does not distinguish between lenited and tense of the non-palatal phonemes—the non-tense one becomes tense. Additionally, in the case of r, only \( r^\prime \) and \( r^\prime \) exist and initially only \( r^\prime \), unless under lenition, in which case it becomes \( r^\prime \) if originally /R/; thus:

\[
\begin{array}{c|c|c|c}
/L/ & /L'/ & /l/ & /l'/ \\
[l^\prime] & [l'] & [l^\prime] & [l'] \\
\end{array}
\]
\[
\begin{array}{c|c|c|c}
/R/ & /R'/ & /r/ & /r'/ \\
[r^\prime] & [r'] & [r^\prime] & [r'] \\
\end{array}
\]
\[
\begin{array}{c|c|c|c}
/N/ & /N'/ & /n/ & /n'/ \\
[n^\prime] & [n'] & [n^\prime] & [n'] \\
\end{array}
\]

(bold signifies the change from the inherited Old Irish system)

This system of transcriptions of the fortis/lenis sonorants is based on de Bhal draithe (1966).

Other systems (such as Akerbeltz) would transcribe the dental sonorants as follows:

\[
\begin{array}{c|c|c|c|c}
[r^\prime] & [r] & [r'] & [r] \\
[n^\prime] & [n] & [n'] & [n] \\
\end{array}
\]

Some Celticists, including Thurneysen and Stifter, employ lowercase Greek letters to represent the lenited consonants. Thus (palatalization ignored here):

\[
\begin{array}{c|c}
/L/ & l \\
/l/ & \lambda \\
/R/ & r \\
/r/ & \rho \\
\end{array}
\]

\[14\] not ever given because \( r^\prime \) has not survived in any Irish or Scottish dialect.
Similarly for other lenited consonants:

/ð/ \( \delta \)
/θ/ \( \theta \)
/v/ \( \beta \)\(^{15} \)
/\( \tilde{\varsigma} \)/ \( \mu \)\(^{15} \)
/\( \tilde{\eta} \)/ \( \phi \)\(^{15} \)
/γ/ \( \gamma \)
/χ/ \( \chi \)

Welsh:
My Modern Welsh transcriptions seek to roughly imitate a general South-Western dialect.

I have transcribed the Welsh stops with an opposition between voiced and unvoiced: [p] vs. [b] whereas in reality they both feature [–voice] and aspiration [± spread glottis] distinguishes between them, thus [pʰ] vs. [b̊] / [p] . Additionally, dialectal variation does also play a role\(^{16} \).

The difference of whether consonants are differentiated by voice or aspiration holds little significance in synchronic application of mutation in Modern Welsh. However, it may lead to insights on the pre-history and development of Celtic lenition in both the Goidelic and Brythonic branches – see section X.b.

This paper represents the nasal mutation of the voiceless stops /p, t, k,/ as voiceless aspirated nasals [m̊ʰ, n̊ʰ, ŋ̊ʰ]; however, they are often phonetically voiced nasals plus the voiceless glottal fricative: [mh, nh, ɳ̊h] (Willis 1986, p. 2).

---

\(^{15}\) In reality in Old Irish these sounds probably were bilabial. Modern Irish varies between true bilabials and labio-dentals. Thus I occasionally use these Greek symbols as well; especially with \( \mu \).

\(^{16}\) Scottish Gaelic also shares the same phenomenon of pre- and post-aspiration rather than voicing, which can possibly indicate the underlying influence of Brythonic and Pictish, or maybe Scandinavian influence brought by the Vikings (Modern Icelandic, for example, employs [± spread glottis] to distinguish between /p/ and /b/).
Old Irish / Middle Welsh:

Obviously no spoken data exists upon which to draw for transcribing the pronunciation of these medieval languages, so the transcriptions are approximate. The irregular orthography further complicates matters, especially since oftentimes initial mutations have no special marking. In general, I have drawn from Stifter for the Old Irish pronunciations and have followed the basic guidelines set by Evans in GMW for Middle Welsh. In cases of ambiguous orthographical forms, the modern languages assist in formulating an educated guess.
viii. **Fixed ro (earlier) vs. Moveable (proclitic) ro**

(GOI §527-8, 234.2)

Depending on its position, the augment particle *ro* may trigger lenition. It does so when it comes immediately before the main stress of the verb; the so-called “moveable ro”. The fixed *ro* is typically located after the preverbs and immediately before the verb-stem. The forms in parentheses I constructed by analogy, the others are from GOI. My forms are hypothetical and unattested.

*dogáetha, togaítha* ‘to deceive’

<table>
<thead>
<tr>
<th><strong>Fixed ro</strong></th>
<th><strong>Moveable ro</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(ni-to-r-gaítsam)</em></td>
<td><em>ni-ruth-o-gaítsam</em></td>
</tr>
<tr>
<td>[n̺ʲiːˈtor̾gəɪ̯dsəm]</td>
<td>[n̺ʲiːɾ̾oˈθəɣaɪ̯dsəm]</td>
</tr>
<tr>
<td><em>(ni-ro-thogai̯th)</em></td>
<td><em>(ni-ro-thogai̯tha)</em></td>
</tr>
<tr>
<td>[n̺ʲiːˈmoθɔrɡaθ]</td>
<td>[n̺ʲiːˈɾ̾oθɔrɡaθ]</td>
</tr>
<tr>
<td><em>(ni-to-r-gaítha)</em></td>
<td><em>(ni-to-r-gaítha)</em></td>
</tr>
<tr>
<td>[n̺ʲiːˈtor̾gəɪ̯θa]</td>
<td>[n̺ʲiːˈɾ̾oθəɣaɪ̯θa]</td>
</tr>
</tbody>
</table>

Both of these parallel forms of *do-intaí*, ‘to translate’ are attested:

<table>
<thead>
<tr>
<th><em>do-intarráe</em></th>
<th><em>do-r-int-aí</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>(-ro-soi)</td>
<td>‘has turned/translated’</td>
</tr>
<tr>
<td>[doˈɪn̪ˠtər̾aɪ]</td>
<td>[doˈr̾ɪn̪ˠtaɪ]</td>
</tr>
</tbody>
</table>
ix. **Ogham Alphabet**

(McManus 1991, p. 2, 142; Ziegler, p. 8)

\[\text{blfns hdtcq} \quad \text{B L V S N} \quad \text{H D T C Q}\]

\[\text{mgpzr aouei} \quad \text{M G NG Z R} \quad \text{A O U E I}\]

\[\text{forfeda (many variations):} \]

\[\text{EA OI UI IO AE}\]
References

Ahlqvist, A.
Two notes on relative marking in Old Irish.

Akerbeltz - A’ Ghobhar Dhubh
_Goireasan Gàidhlig air an Eadar-Lìon - Gaelic Resources on the Internet_

Albrow, K.H.
Mutation in ‘spoken North Welsh’
in C.E. Bazell et all. (eds.), _In memory of J.R. Firth._

Awbery, G.M.
Initial mutation in a generative grammar of Welsh.
_Phonetics department report, 4._

Awbery, G.M.
Welsh mutations: syntax or phonology?

Badiš, Josef.
_Grammar of early Welsh. Part 1—Phonology._

Ball, Martin J.
Exploring stylistic variation in the aspirate mutation of Welsh.

Ball, Martin J.
Initial-consonant mutation in modern spoken Welsh.

Ball, M./ N. Müller.
_Mutation in Welsh._
Ball, Martin J. / James Fife (eds.).
The Celtic languages.

Ball, Martin J.
The mutation of prepositions in Welsh.

Ball, Martin J.
The soft mutation of /g/ and its implications for phonological rule-ordering in Welsh.

Ball, Martin J.
Variation in the use of initial consonant mutations.
in Martin J. Ball (ed.), The use of Welsh.

Ball, Martin J./ James Fife / Erich Poppe / Jenny Rowland eds.

Bambury, Pádraig / Stephen Beechinor [compiled by]
Annals of Ulster.
http://www.ucc.ie/celt/published/T100001A/

Bellin, Wynford.
Linguistic variation and Welsh mutations in children.
in Alan R. Thomas / Martin J. Ball (eds.), Methods in dialectology.

Bergin, Osberg.
Irish grammatical tracts.
Dublin: School of Irish learning, (1915).

Bonaparte, Louis-Lucien.
Initial mutations in the living Celtic, Basque, Sardinian and Italian dialects.
Borgstrøm, Carl Hjalmar.
*A linguistic survey of the Gaelic dialects of Scotland. vol. I.- The dialects of the Outer Hebrides.*
Norsk Tidsskrift for Sprogvidenskap, Suppl. Bind I.

Borgstrøm, Carl Hjalmar.
Norsk Tidsskrift for Sprogvidenskap, Suppl. Bind II.
Oslo: Norwegian Universities Press (1941).

Borsley, Robert D. / Ian Roberts.
*The syntax of the Celtic languages: a comparative perspective.*

Boyce, S. / C.P. Brownman / L. Goldstein.
Lexical organization and Welsh consonant mutations.

Bräsicke, Lars.
*Gramadach na Gaeilge - Irish grammar.*

Breathnach, Liam.
Some remarks on the relative in Old Irish.

Breathnach, R.B.
Initial mutation of substantives after preposition + singular article in Déise Irish.

Brown, Keith (chief ed.).
*Encyclopedia of language & linguistics.*
2nd ed., vol. 5.

Bury, J. B.
Tírechán's memoir of St. Patrick.
Carney, James.
Aspects of archaic Irish.

Carney, James.
A miscellany of Irish verse.

Christian Brothers.
New Irish grammar.

Coleg Addysg Uwch Normal.
Treigliadau.

On the fate of *w in Old Irish.

On the origin of the absolute and conjunct verbal inflexions of Old Irish.
in Bernd Schlerath (ed.), Grammatische Kategorien: Funktion und Geschichte.

The origins of the Insular Celtic conjunct and absolute verbal endings.
in H. Rix (ed.), Flexion und Wortbildung: Akten der V. Fachtagung der Indogermanischen

Craig, J.
Modern Irish grammar.
Baile Átha Cliath: Sealy, Bryers & Wlaker, (1900).

D’Arbois de Jubainville, H.
Études grammaticales sur les langues celtiques.
de Bernardo Stempel, P.
Einige Beobachtungen indogermanische [sic] /w/ im Keltischen.

de Bhaldraithe, Tomás.
Gaeilge Chois Fhairrge: an deilbhíocht.
Baile Átha Cliath: Dublin Institute for Advanced Studies, (1953).

de Bhaldraithe, Tomás.
The Irish of Cois Fhairrge, Co. Galway. A phonetic study.

de Hoz, Javier.
When did the Celts lose their verba; *-i? 
Tübingen: Niemeyer.

Dillon, Myles.
On the structure of the Celtic verb.

Dinneen, Rev. Patrick S. (ed.)
Foclón Gaeilge agus Béarla – an Irish-English dictionary.

Dorian, Nancy C.
A hierarchy of morphophonemic decay in Scottish Gaelic language death: the differential failure of lenition.

Dorian, Nancy C.
East Sutherland Gaelic: the dialect of the Brora, Golspie, and Embo fishing communities.

Dorian, Nancy C.
Language death: the life cycle of a Scottish Gaelic dialect.
Dottin, Georges.
Les variants grammaticales des manuscrits irlandais.

Dottin, Georges.
*Manuel d’irlandais moyen 1. grammaire.*

Ebel, Herman.
*Celtic studies.* [tr. Sullivan, William K. w/ introduction]

Ellis, Jeffrey.
The grammatical status of initial mutation.

Elsie, Robert.
*Dialect relationships in Goidelic: a study in Celtic dialectology.*

Eska, Joseph F.
Allophony, Chamalières eddic, and related matters.
Tübingen: Niemeyer.

Eska, Joseph F.
On basic configuration and movement within the Gaulish clause.
in Pierre-Yves Lambert / Georges-Jean Pinault (eds.), *Gaulois et Celtique continental.*
III Hautes Études du Monde Gréco-Romain 39
École pratique des Hautes Études.

Evans, D. Simon.
*Gramadeg Cymraeg canol.*

GMW
Evans, D. Simon.
*A Grammar of Middle Welsh.*
Evans, H. Meurig / W.O. Thomas.
*Y geiriadur mawr: the complete Welsh-English English-Welsh dictionary.* [4th ed. revised]

Evans, Samuel J.
*Studies in Welsh Grammar and Philology.*

Feuth, Els.
*Gemination: an Old Irish mutation rule?*

Fife, James / Gareth King.
*Celtic (Indo-European).*
in Spencer, Andrew / Arnold M. Zwicky (eds.), *The handbook of morphology.*

Fowkes, R.
*Initial mutations of loanwords in Welsh.*

Gillies, William.
*Scottish Gaelic*
in Ball / Fife (eds.), *The Celtic languages.*

*Gramadach na Gaeilge agus litriú na Gaeilge – an caighdeán oifigiúil.*

Gray, Louis H.
*Mutation in Gaulish.*

Green, Antony.
*Old Irish verbs and vocabulary.*
Green, Anthony.
The independence of morphology and phonology: the Celtic mutations.  

Green, David.  
Archaic Irish.  

Greene, David.  
Gemination.  

Greene, David.  
The making of Insular Celtic.  
in *Proceedings of the Second International Congress of Celtic Studies*.  

Greene, David.  
The spirant mutation in Brythonic.  

Griffen, T.  
Early Welsh aspiration: a dynamic perspective.  

Griffen, T.  
Early Welsh eclipsis: a dynamic analysis.  

Griffen, T.  
Old Welsh *ll* and *rh*.  

Grijzenhout, Janet.  
Irish consonant mutation and phonological theory.  
Onderzoeksinstituut voor Taal en Spraak - Dissertation series.
Conroy Mutations

Gwynn, E.J.
“Lenition of initial sm”. 
*Miscellanea Celtica.*
Hermathena XX. 63, (1926).

Hamp, Eric.
Consonant allophones in Proto-Keltic.

Hamp, Eric P.
Morphophonemes of the Keltic mutations.

Hannahs, S.J.
Phonological structure and soft mutation in Welsh.
in Ursula Kleinhenz (ed.), *Interfaces in phonology.*

Harlow, S.
The syntax of Welsh soft mutation.

Harvey, A.
Aspects of lenition and spirantization.

Harvey, A.
The significance of Cothraige.

Hessen, H.
Beiträge zur altirischen Grammatik.
I. Ein Fall von Dissimilation im Altirischen [son, on].
II. Die post-verbale Lenierung im Altirischen.
Göttingen.

Howlett, David (ed.).
*The book of letters of Saint Patrick the Bishop.*
Hull, Vernman.
Early Irish initial mutations after the dative plural.

Hughes, A.J.
Ulster Irish *char* as a reflex of Old Irish *nícon ro* rather than a Scottish import.
in Séamus Mac Mathúna / Ailbhe Ó Corráin (eds.), *Miscellanea Celtica in Memoriam Heinrich Wagner.*

Issac, Graham R.
The function and typology of absolute and conjunct flexion in early Celtic: some hints from Egyptian.

Issac, Graham R.
The most recent model for the development of absolute and conjunct flexion.

Jackson, Kenneth.
*A historical phonology of Breton.*
Dublin: Dublin Institute for Advanced Studies. (1967).

Jackson, Kenneth.
Common Gaelic: the evolution of the Goidelic languages.

Jackson, Kenneth.
*Language and history in early Britain.*

Jackson, Kenneth.
Some mutation in Blasket Irish.

Jenner, Henry.
*A handbook of the Cornish language.*
Kallen, J.
Initial mutation in Modern Irish.

King, Gareth.
Modern Welsh—a comprehensive grammar.

Knott, Eleanor.
An introduction to Irish syllabic poetry of the period 1200-1600.
Dublin: Dublin Institute for Advanced Studies, (2005 r/1964 r/1934 r/1928)

Koch, J.T.
*Cothaireche*, Esposito’s theory and neo-Celtic lenition.
in A. Bammesberger / A. Wollmann (eds.), Britain 400-600: language and history.

Kortlandt, Federik.
Italo-Celtic origins and prehistoric development of the Irish language.

Kortlandt, F.
Phonemicization and rephonemicization of the Old Irish mutations.

Kortlandt, Frederik.
The Old Irish absolute and conjunct endings and questions of relative chronology.

Lambet, Pierre-Yves.
La langue gauloise.

Lambert, P.-Y.
La particle v. irl. nícon

Le Roux, Pierre.
Mutations et assimilations de consonne dans le dialecte amoricain de Pleubian.
_An Introduction to Old Irish._

Lewis, D. Geraint.
_Y Treigladur._

Lewis Henry / Piette, J.R.F.
_Llawlyfr Llydaweg Canol._

Lewis Henry.
_Llawlyfr Cernyweg Canol._
Caerdydd: Gwasg Prifysgol Cymru, (1945).

Lewis, Henry / Holger Pedersen.
_A concise comparative Celtic grammar._

Loth, Joseph.
_Dialectica. VI: Mutations initiales._

MacAulay, Donald.
Notes on some noun-initial mutations in a dialect of Scottish Gaelic.
_Scottish Gaelic studies_ 9, (1962). 146-175.

MacAulay, Donald (ed.).
_The Celtic languages._

MacBain, Alexander.
_Etymological dictionary of Scottish-Gaelic_

Mac Congáil, Nollaig.
_Leabhar gramadáí Gaeilge._
Marstrander, C.J.S.
Kleine irische Beiträge [Aufgaben der Lenierung].

Martinet, André.
“Celtic lenition and western Romance consonants”.

M‘Caughey, Terence.
*Ní bhfuil*.

McCone, Kim.
*A first old Irish grammar and reader, including an introduction to Middle Irish*.
NUI Maynooth: Department of Old and Middle Irish of NUI Maynooth, (2005).

McCone, Kim.
Further to absolute and conjunct.

McCone, Kim.
Pretonic preverbs and the absolute verbal endings in Old Irish.

McCone, Kim / Katharine Simms (eds.).
*Progress in medieval Irish studies*.

SnaG
McCone, Kim et al. (eds.).
*Stair na Gaeilge. In ómós do Pádraig Ó Fiannachta*.

EIV
McCone, Kim.
*The early Irish verb*.
McCone, Kim.
_Towards a relative chronology of ancient and medieval Celtic sound change._
_Maynooth Studies in Celtic Linguistics I._

McKenna, L. S.J.
Initial eclipse and lenition, use of nominative for accusative in early Modern Irish. (based mainly on Magauran MS. and Duanaire of Y.B.L.).

McGonagle, N. [Nollaig Mac Congáil]
Lenition of initial consonant of _cluín_.

McManus, D.
A chronology of Latin loan words in early Irish.

McManus, Damian.
_A guide to Ogam._
_Maynooth Monographs 4._

McManus, Damian.
The so-called _Cothrigé_ and _Pátraic_ strata of loan-words in early Irish.
in P. Ní Chatháin / M. Richter (eds.), _Irland und Europa: die Kirche im Frühmittelalter._

Meier-Brügger, Michael.
_Indogermanische Sprachwissenschaft – 8., überarbeitete und ergänzte Auflage der früheren Darstellung von Hans Krahe._ [Unter Mitarbeit von Matthias Fritz und Manfred Mayrhofer]

Meillet, Antoine.
Sur l’origine de la distinction des flexions conjointe et absolue dans le verbe irlandais.

Meyer, Kuno (ed.).
_Sanas Cormaic – an Old Irish glossary compiled by Cormac Úa Cutleannáin_ [edited from the copy in the Yellow Book of Lecan by Kuno Meyer].

Mizutani, H.
Welsh lenition and the function of preverbal particles.

Morgan, T.J.
Y treigladau a’u cystrawen.

Morris-Jones, J.
A Welsh grammar—historical an comparative.

Morris-Jones, J.
Welsh syntax.
Cardiff, (1931).

Morvannou, Fanch.
Le Breton dans péine.

Ní Dhomhnaill, Cáit.
Séimhíú thar éis an ainm-bhriathair thabharthaí.

Ó hAnluain, L. A.
Graiméar Gaeilge na mBráithre Críostaí.

Ó Baoill, Dónall P.
An teanga bheo – Gaeilge Uladh.

O’Brien, M.A.
“Varia: 1. Delenition of -m- in Old Irish”.
Éiriú XI. 86, (1930).

Ó Buachalla, Breandán.
Ní and cha in Ulster Irish.

Ó Buachalla, Breandán.
*An teanga bheo – Gaeilge Chléire.*

Ó Cléirigh, Tomás.
*Aodh Mac Aingil agus an scoil Nua-Ghaeilge i Lobháin.* [de Bhaldraithe, Tomás (ed.)]

O’Connell, Frederick William.
*A grammar of Old Irish.*
Béal Feirste: Mayne, Boyd & Son, (1912).

Ó Cuív, B.
Sandhi phenomena in Irish.
in H. Anderson (ed.), *Sandhi phenomena in the language of Europe.*
Trends in linguistics, studies and monographs, 33.

Ó Cuív, B.
The changing form of the Irish language.
*A view of the Irish language.*

Ó Dochartaigh, C.
Aspects of Celtic lenition.
Ludwigsburg studies in language and linguistics, 14.
Ludwigsburg, (1980).

Ó Dochartaigh, C.
*Cha* and *né* in the Irish of Ulster.

Ó Dochartaigh, C.
Lenition and dependency phonology.
Ó Dónaill, Niall.
*Foclóir Gaeilge-Béarla.* [Tomás de Bhaldráithe, (ed.)]

O'Donnell, P.
*Nasalization in Irish.*
Cork, (1916).

O'Donovan, J.
*A grammar of the Irish language.*
Baile Átha Cliath: Hodges and Smith, (1845).

Ó Dubhthaigh, Bearnárd.
Lomadh ar ainmneacha dílse sa tuiseal ghiniúnach: deascán solaoídí.

Ó hEodhasa, Giolla Bríde [alias: Bonaventura, an Bráthair].
*Rudimento grammaticae Hibernicae— comhréir agus gramadach Ghaeilge Uladh i 1600.* [tr. de Napir, Séamus]

Oftedal, Magne.
A morphemic evaluation of the Celtic initial mutations.

Oftedal, Magne.
Modern Celtic languages.

Ó Madagáin, Breandán.
Nótaí ar chlaochlú tosaigh an ainmfhocail agus na haideachta i gcanúint de chuid Cho. Chorcaí.

Ó Máille, T.
Some cases of de-lenition in Irish.
Ó Máille, Tomás.

Urlabhraidheacht agus graiméar na Gaedhilge – cuid I.
Baile Átha Cliath: Comhlucht Oideachais na hÉireann, (1927).

Ó Maolchonaire, Flaíthrí.

Desiderius: Sgáthán an Chrábhaidh. (1616).

Ó Murchú, Séamus / Dónall P. Ó Baoill (eds.)

An teanga bheo – Gaeilge Chonamara.

Ó Murchú, Máirtín.

Common core and underlying representations.

Ó Murchú, Máirtín.
The Irish language.
Dublin: The Department of Foreign Affairs and Bord na Gaeilge, (1985).

Ó Raghallaigh, Criostóir.

Fograítheacht na Gaeilge.
Dublin: Browne and Nolan, (1924).

O’Rahilly, Thomas F.

Irish dialects past and present – with chapters on Scottish and Manx.
Dublin: Dublin Institute for Advanced Studies, (1972 r/1932).

O’Rahilly, Thomas F.

Some verbal forms in Scottish Gaelic, Manx and Ulster Irish.

O’Rahilly, Thomas F.
The two Patricks: a lecture on the history of Christianity in fifth-century Ireland.

O’Rahilly, Thomas F.
The vocative in modern Irish.
Ó Riain, Pádraig.

Ó Sé, Diarmuid.

Ó Siadhail, Micheál.

Ó Siadhail, Micheál.

Ó Tuathail, Éammon.

Ó Tuathail, Éammon.

Ó hUiginn, R.

Ó hUiginn, Ruairí.

Pedersen, Holger.
Pedersen, Holger.
_Aspirationen i Irsk._
Copenhagen: Spirgatis, (1897).

Pilch, H.
Typology of the Celtic mutations.
in H. Anderson (ed.), _Sandhi phenomena in the language of Europe._
Trends in linguistics, studies and monographs, 33.

Pisani, V.
Irica.
1. Il genetivo sing. dei temi in ũ e in o.
2. L'aspirazione di s- nel celtico insulare.

Pokorny, Julius.
_Altrische Grammatik._
Sammlung Göschen Nr. 896.

Pokorny, Julius.
Das nicht-indogermanische Substrat im Irischen.

Pokorny, Julius.
_Indogermanisches etymologisches Wörterbuch._

Pokorny, Julius.
_Keltologie._
(Wissenschaftliche Forschungsberichte, Geisteswissenschaftliche Reihe, 2)

Pokorny, Julius.
Zum nicht-indogermanischen Substrat im Inselkeltischen.

Powers, Joyce.
Mutation by default on Welsh finite verbs.
Columbus, OH, (1989).

Press, I.
A grammar of modern Breton.

Press, Ian / Herve ar Bihan.
Colloquial Breton – the complete course for beginners.

Pyatt, Elizabeth J.
An integrated model of the syntax and phonology of Celtic mutation.

Pyatt, Elizabeth J.
Lenition in Welsh and Breton is not a unified process.

Pyatt, Elizabeth J.
Relativized mutation domains in the Celtic languages.

Pyatt, Elizabeth J.
The implications of morphological variations in Welsh lenition.

DIL
Quin, Ernest Gordon.
Dublin: Royal Irish Academy, 1913-1976.
(1983).

Quin, Ernest Gordon.
Old-Irish workbook.
Dublin: Royal Irish Academy, (1975).

Rice, K. / E. Cowper.
Consonant mutation and autosegmental phonology.
Conroy Mutations

Roberts, I.G.
Principles and parameters in a VSO language: a case study in Welsh.

Roberts, I.G.
The syntax of direct object mutation in Welsh.

Russell, P.
A footnote to spirantization.

Russell, P.
*An introduction to the Celtic languages.*

Schmidt, Karl Horst.
Late British.
in Bammesberger, A. / A. Wollmann (eds.), *Britain 400-600: language and history.*

Schmidt, K.H.
On the reconstruction of proto-Celtic.
in G.W. MacLennan (ed.), *Proceedings of the first North American Congress of Celtic studies, Ottawa 1986.*

Schrijver, Peter.
Some common developments of Continental and Insular Celtic.
in Pierre-Yves Lambert / Georges-Jean Pinault (eds.), *Gaulois et Celtique continental.*
III Hautes Études du Monde Gréco-Romain 39
École pratique des Hautes Études.

Schrijver, Peter.
*Studies in British Celtic historical phonology.*
Leiden series in Indo-European 5.
Schrijver, Peter.
*Studies in the history of Celtic pronouns and particles.*
Maynooth: Department of Old Irish, National University of Ireland, (1997).

Scottish Qualifications Authority (*Úghdarras Theisteanas na h-Alba*).
Scottish Gaelic orthographical conventions 2005.

Sims-Williams, Patrick.
Common Celtic, Gallo-Brittonic and Insular Celtic.
in Pierre-Yves Lambert / Georges-Jean Pinault (eds.), *Gaulois et Celtique continental.*
III Hautes Études du Monde Gréco-Romain 39
École pratique des Hautes Études.

Sims-Williams, Patrick.
Dating the transition to neo-Brittonic: philology and history, 400-600.
in A. Bammesberger / A. Wollmann (eds.), *Britain 400-600: language and history.*

Sims-Williams, Patrick.
The double system of verbal inflexion in Old Irish.

Smith, Thomas W. Jr.
Mutation as morphology: bases, stems, and shapes in Scottish Gaelic.

Sommerfelt, Alf.
Initial mutations in Celtic.
in *Studies presented to Yuen Ren Chao on his sixty-fifth birthday.*
(Bulletin of the Institute of History and Philology, Academia Sinica, vol. 29)

Sommerfelt, Alf.
Les consonnes vélarisées de l'irlandais.
*Mélanges linguistiques offerts à Holger Pedersen.*
Sommerfelt, Alf.
On some of the structural differences between Irish and Scottish Gaelic.
_Diachronic and synchronic aspects of language. Selected articles._

Sommerfelt, Alf.
On some of the structural differences between Irish and Scottish Gaelic.
in Pulgram, Ernst (ed.), _Studies presented to Joshua Whatmough on his sixtieth birthday._

Sommerfelt, Alf.
Sur l’ "aspiration" de b et m non palataux en irlandais.

Stenson, Nancy.
Patterns of mutations in Irish loan words.

Stewart, Thomas W.
_Mutation as morphology bases, stems, and shapes in Scottish Gaelic._
Columbus, Ohio: Ohio State University, (2004).

Stifter, David.
_Sengoídelc – Old Irish for beginners._

Strachan, John.
_An introduction to early Welsh._

Strachan, John.
_Old-Irish paradigms and selections from the Old-Irish glosses. [revised by Osborn Bergin, 4th edition]_
Dublin: Royal Irish Academy, (1976 r/1949).

Strachan, John.
On the language of the St. Gall glosses
Strachan, John.
The infixed pronoun in Middle Irish.

Tallerman, Maggie.
VSO word order and consonantal mutation in Welsh.

Tallerman, Margaret Olwen.
Mutation and the syntactic structure of modern colloquial Welsh.
Dissertation abstracts international, 50.10, (1990). 3217A.

Tallerman, Maggie.
The syntax of Welsh "direct object mutation" revisited.

Ternes, E.
Initial mutations in Celtic and in West African language: synchrony and diachrony.

Ternes, Elmar.
Konsonantische Anlautveränderung in den keltischen und romanischen Sprachen.

Thomas, P.W.
The Brythonic consonant shift and the development if consonant mutation.

Thomson, Robert L.
The history of the Celtic languages in the British Isles.
in Peter Trudgill (ed), Language in the British Isles.

Thorne, D.
A comprehensive Welsh grammar/Gramadeg Cymraeg cynhwysfawr.

Thorne, D.
Sylwadau ar rai treigladau.
Thurneysen, Rudolf.
*A grammar of Old Irish.*
[translated from German and revised by D.A. Binchy / Osborn Bergin]

Thurneysen, Rudolf.
*Handbuch des Alt-irischen.*
Heidelberg,: C. Winter, (1909).

Thurneysen, Rudolf.
On certain initial changes in the Irish verb after preverbal particles.

Thurneysen, Rudolf.
*Zu irischen Handschriften und Litteraturdenkmälern.*
Berlin, (1912-13).

Timm, L.
Breton mutations: literary vs. vernacular uses.

Trépos, P.
*Grammaire Bretonne.*

Uhlich, Jürgen.
Weiteres zur Chronologie der lateinischen Lehnwörter im Irischen.
*Keltologie heute - Themen und Fragestellungen.*
Herausgegeben von Erich Poppe

PCD
University of Wales.
Proto-Celtic – English dictionary.
http://www.wales.ac.uk/documents/external/cawcs/PCI-MoE.pdf
Vendryes, Janet. 
*Grammaire du vieil-irlandais.* 

Vendryes, Joseph. 
*Lexique étymologique de l'irlandais ancien.* 

Villar, Francisco. 
*A new interpretation of Celtiberian grammar.* 

Wagner, H. 
*Iarfhocal ar ní agus cha sa Ghaeilge.* 
in Seosamh Watson (ed.), *Féilscríbhinn Thomáis de Bhaldraithe.* 

Wigger, Arndt. 
*Nominalformen im Conamara-Irischen.* 
[Geistes – und sozialwissenschaftliche Dissertationen 6]. 

Williams, G.J. / E.J. Jones. 
*Gramadegau’r penseirddiaid.* 
Caerdydd, (1934).

Williams, Stehen J. 
*Elennau gramadeg Cymraeg.* 

Willis, Penny. 
*The initial consonant mutations in Breton and Welsh.* 
Bloomingtom, Ind.: Indiana University linguistics club, (1986).

Willis, Penny. 
*The initial consonant mutations in the Brythonic Celtic languages.* 
Windisch, E.
*Kurzgefasste irische Grammatik – mit Lesestücken.*

Ziegler, Sabine.
*Die Sprache der altirischen Ogam-Inschriften.*

Zimmer, Stefan / B. Smelik / R. Hofman / C. Hamans / D. Cram (eds.).
*The Celtic Mutations: some typological comparisons.*
A Companion in Linguistics, a Festschrift for Anders Ahlqvist,

Zwicky, A.
Welsh soft mutation and the case of object NPs.

**Abbreviations:**
EIV McCone, *The Early Irish verb*
GMW Evans, *A grammar of Middle Welsh*
GOI Thurneysen, *A grammar of Old Irish*
L&P Lewis / Pedersen, *A concise comparative Celtic grammar.*
PCD Proto-Celtic – English dictionary
SnaG *Stair na Gaeilge*