

Sound Change in Proto-Celtic: Laryngeals Before $*w$

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ABSTRACT. The reconstructed Proto-Indo-European phonemes known as laryngeals underwent an unusual change in Proto-Celtic when between vocalic or consonantal resonants and the glide $*y$. This paper examines the evidence for laryngeals between resonants and the other Proto-Indo-European glide $*w$, and discusses the results in the light of previous scholarship. Conclusions are made difficult by the sparsity of clear evidence, but what is available points to a double reflex of laryngeals in this position, depending on whether they are preceded by a vocalic or consonantal resonant.

1. Introduction

This paper¹ has two purposes. The first is to examine the reflexes of the Proto-Indo-European phonemes known as laryngeals in Proto-Celtic, specifically before the glide $*w$ and after a resonant². This will be done by collecting and comparing the evidence of the attested Celtic languages (which include Gaulish, Welsh, Breton, Cornish and Irish). On the basis of this data a proposal will be put forward regarding the regular outcome of these clusters.

The second purpose is to act as a case study for the difficulties that we come across when reconstructing prehistoric stages of languages and language families, especially those of relatively limited attestation, such as the ancient Celtic languages. A particular problem is the meagre and confused state of the data, which frequently leads to a range of possible explanations. Furthermore, it is often the case, as we shall see, that scholars have suggested a range of differing interpretations, not always on the basis of a full collection of the data.

2. Proto-Indo-European Laryngeals

Proto-Indo-European laryngeals are a set of phonemes reconstructed on the basis of the comparative method. Their phonetic status has not been fixed (e.g. Beekes

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² The PIE phonemes included as resonants here are $*l$, $*r$, $*m$, $*n$.

1989), but it is generally possible to identify their reflexes in the historically attested languages. Three laryngeals are usually reconstructed, represented here as $*H_1$, $*H_2$ and $*H_3$ (and H when the quality of the laryngeal is not known or is unimportant). Like the Proto-Indo-European resonants, they were consonantal unless in the syllable peak, in which case they could be vocalic. Perhaps the most notable feature of the laryngeals was the propensity of $*H_2$ and $*H_3$ to “colour” an adjacent $*e$ (i.e. change it to $*a$ and $*o$ respectively). All laryngeals were lost before another consonant, lengthening the preceding vowel in compensation:

$*(-)CeH_1C^{-3} > *(-)CēC-$; $*(-)CeH_2C- > *(-)CāC-$; $*(-)CeH_3C- > *(-)CōC-$.

$*pleH_1-nu- > *plēnu- >$ Old Irish *lín*⁴ “full number, complement” (cf. Lat. *plēnus* “full”).

$*b^hreh_2tēr > *b^hrātēr >$ OIr. *bráthir*, Middle Welsh *brawt* “brother” (cf. Lat. *frāter* “brother”).

$*deH_3-nu- > dōnu- >$ OIr. *dán*, MW. *dawn* “gift” (cf. Lat. *dōnum*).

It should be noted that two Proto-Celtic sound changes subsequently obscured these developments: $*ē$ became $*ī$, and $*ō$ became $*ā$ in non-final syllables.

Between consonants, a laryngeal gave $*ā$ in Proto-Celtic: $*(-)CHC- > *(-)CāC-$

$*pH_2tēr > *pātēr >$ OIr. *athair* “father”, Gaulish *atrebo* “to the fathers”.

It is not quite clear what the regular reflex of a laryngeal was after a vocalic resonant and before another consonant. McCone (1991: 106-7) assumed a regular change $*(-)CṚHC^{-5} > *(-)CRāC-$ e.g. $*pḡH_1no- > plāno- >$ OIr. *lán*, MW. *llawn* “full”. If this were the case, then forms with a short vowel (e.g. $*mḡH_2to- > mṛāto- >$ OIr. *mrath*, MW. *brat* “treachery”) could perhaps be explained by a form of analogical shortening (Joseph 1982). Alternatively, de Bernardo Stempel (1987: 40-43) has argued that $*ā$ is regular in the environment $*(-)CṚHCC-$, but is otherwise analogical (for example in *mrath*). However, Schrijver (1995: 168-191) proposed that the cluster $*(-)CṚHR-$ gave $*(-)CRāR-$, but that $*(-)CṚHT-$ became $*(-)CRāT-$ regularly.

³ In this paper C stands for any consonant, R for any resonant, and T for any stop. Long vowels are marked by a *macron* above the vowel (e.g. $ā$). Short vowels appear as $ā$. The consonantal equivalents of $*i$ and $*u$ (glides) are written $*y$ and $*w$. In Irish forms, length is marked by an acute accent above a vowel (e.g. $á$).

⁴ Note that $*p$ was lost in Proto-Celtic.

⁵ Vocalic resonants are represented with a small circle under the letter, which is the usual system in Indo-European reconstruction.

Regardless of the precise details of the distribution, the important point is that the reflex of the cluster $*(-)C\check{R}Hy-$ is neither $*(-)C\check{R}\bar{a}y-$ or $*(-)C\check{R}\check{a}y-$, as might be expected. Instead, we find that the laryngeal seems to be lost, with the usual reflexes of Proto-Celtic vocalic $*\check{R}$ being found instead. For example, $*g\check{p}H_1y\text{etor} > *g\check{p}y\text{etor} > *gany\text{etor} > \text{OIr. } -gainedar$ “is born” (cf. Skt. *jāyate* “is born”), where we would otherwise expect ${}^xgn\bar{a}y\text{etor}$ (or ${}^xgn\check{a}y\text{etor}$).

The same is true of laryngeals after consonantal resonants and before $*y$. Thus, the verbal root $*H_2erH_3-$, when combined with the present-marking suffix $*-yelo-$ gives $*aryelo-$ $>$ OIr. *airid*, MW. *ardd* “ploughs” (cf. Greek. *aróō*⁶, Lat. *arāre* “plough”), where we would expect ${}^xar\bar{a}yelo-$ or ${}^xar\check{a}yelo-$.

3. What happened to laryngeals after resonant and before $*w$: $*(-C/V)RHw-$?

The question that this paper hopes to answer is whether a similar change occurred when the other Proto-Indo-European glide $*w$ occurred after the laryngeal, i.e. in clusters of the shape $*(-)C\check{R}Hw-$ or $*(-)VRHw-$. In principle, one might expect this cluster to operate identically to $*(-)C\check{R}Hy-$ and $*(-)VRHy-$, resulting in loss of the laryngeal; alternatively, it might act in the same way as clusters of the type $*(-)C\check{R}HC-$ $>$ $*(-)C\check{R}\check{a}C-$ and $*(-)VRHC-$ $>$ $*(-)VR\check{a}C-$ ⁷. Other outcomes are, as we will see, also possible.

Previous scholars (Ringe 1988: 424-5, de Bernardo Stempel 1999: 214, 454 fn. 54) who considered this problem have tended to prefer the former possibility, that laryngeals were lost after resonants and before $*w$. However, de Bernardo Stempel (1999: 220 fn. 148) has also suggested, confusingly, that the cluster $*(-)C\check{R}Hw-$ might give $*(-)C\check{R}\check{a}w-$; this would be an exception to her usual rule for $*(-)C\check{R}HC-$ clusters.

This latter claim cannot, it would appear, be upheld. We shall start our investigation by examining the evidence which impinges on this particular theory, and then continue to look at the remaining data before coming to an (admittedly tentative) conclusion.

⁶ In Greek forms, an acute or circumflex accent marks the accent.

⁷ Since the resonant is consonantal here, this is an example of the environment $*(-)CHC-$ $>$ $*(-)C\check{a}C-$

4. Against a sound change *(-)C \overline{R} Hw- > *(-)CR \overline{a} w-

According to de Bernardo Stempel's second claim, it is possible to distinguish in Irish between the reflex of *- \overline{a} wV- and *- \overline{a} wV-, where *-V- is in the final syllable of a word. The former is exemplified by the changes *k \overline{r} Hw- > *kr \overline{a} w- > OIr. *cráu* > Middle Irish *cró* “enclosure”, *g \overline{n} H₃w- > *gn \overline{a} w- > MIr. *gnó* “illustrious”, *g \overline{r} H₂w- > *gr \overline{a} w- > OIr. *bráu* “dense mass; multitude, crowd”, and *s \overline{n} H₂wā > *sn \overline{a} w- > OIr. *snáu* “stream”. The latter is represented by MIr. *blá* “yellow”, which is regular from *b^hlā-wō-s < *b^hlōwōs < *b^hloHw- or *b^hleH₃w-. The cognates for this are Old English *blāw* “blue”, Lat. *flāuus* “golden yellow”.

In principle, therefore, it is possible, on the basis of the Irish cognates, to make a distinction between *- \overline{a} wV- > OIr. -*áu* > MIr. -*ó* and *- \overline{a} wV- > MIr. -*á*. However, it will be seen that the material does not in fact support this conclusion.

In the first place, there is no reason why any of the alleged instances of *(-)C \overline{R} Hw- must represent such a cluster. The root to which *cráu* belongs is not good evidence for this cluster, being reconstructed as **crewH-* by LIV (371)⁸. There is no reason why *snáu* cannot equally well be from **sneH₂wā* (IEW 152) or *gnó* from **gneH₃w-* (as argued by Schrijver 1991: 299-301). The word *bráu* seems to be a metaphorical usage from an original meaning *‘quern, millstone’’. This form would have had a long vowel regularly in the nominative singular **g^wreH₂wō* (cf. Skt. *grāvan* “rock used to press *soma*”; Hamp 1975: 41), so it is not good evidence for the reflex of *- \overline{a} wV-.

Further contrary to de Bernardo Stempel's proposal, there are also at least two examples of *- \overline{a} wV- producing Old Irish -*áu* or Middle Irish -*ó*. The first is OIr. *gáu* f. “falsehood”, which comes from **gāwā* (< **gōwā*?). The cognates W. *gau* m. “falsehood”, Cornish *gow* m. “lie” cannot come from **gāw-* (Uhlich 1995: 37), and indeed *gáu* is reconstructed as **gōwā* by de Bernardo Stempel herself (1999: 59). The second example is MIr. *cló* “nail”. Whether this is a loan-word from Latin *clāuus* “nail”, or is inherited, it must have had an original long vowel, since Breton *klaou* “knot” cannot come from **klāwo*⁹.

On the other hand, there is very slight evidence for a long * \overline{a} as a result of the cluster *(-)C \overline{R} Hw- in the form of Welsh *breud* “corpse-worm” < **brāwato*- <

⁸ It is not impossible to come up with an explanation for the various forms in other languages that would allow a reconstruction **k \overline{r} Hw-*, but it would involve considerable complexity and unproven assumptions. Even then, there would be nothing to prevent a reconstruction **kreHw-*.

⁹ According to Schrijver (1991: 175), the original form must have been **kleH₂w-*, since he maintains that **k \overline{r} H₂w-* could not have given Lat. *clāuus*.

*g^wʰH₃-w-. The Welsh diphthong cannot come from *-ǎw-. This etymology is doubted on semantic and morphological grounds by Schrijver (1995: 181), but the connection seems semantically convincing (root *g^werH₃- “devour”, LIV 211).

The evidence seems firmly to argue against de Bernardo Stempel's proposal. We can conclude that *(-)CāwV- does give OIr. (-)Cáu, which means there may be no way of telling in Irish between *(-)CāwV- and *(-)CāwV-. However, W. *breuad* does provide tentative evidence for a change *(-)CṚHw- > *(-)CRāw- in Celtic. This leaves us with MIr. *blá*. It may be that, as proposed by IEW (160), this is a loan-word from Old English¹⁰.

5. Laryngeals after consonantal resonants and before *w: *(-)VRHw-

The discussion above has covered most of the possible evidence regarding the cluster *(-)CṚHw-. What about when the resonant preceding the laryngeal is consonantal, i.e. in the cluster *(-)VRHw-? Again, the evidence is distinctly slim, and I adopt the following methodology. There were certain phonetic environments in which a laryngeal would be regularly lost in or before Proto-Celtic without leaving any reflex other than colouring of adjacent *e (if the laryngeal was *H₂ or *H₃). One such environment was the sequence *(-)CHV-. An example is the Proto-Indo-European root *merH₂- (cf. Gk. *márnamai* “I fight”, LIV 440). The subjunctive of OIr. *marnaid* “deceive, betray” (< *mṛ-n-H₂-) was *meraid* < *merH₂-ase/o-*. As the laryngeal was lost regularly, this verb allowed for a synchronic analysis as consisting of a root *mar-/mer-. This secondary root could then be the basis for the subsequent creation of other forms, and these forms cannot be used as evidence for the loss of laryngeals by a process of regular sound change. Therefore OIr. *meirb* adj. “dead”, W. *merw* “flabby, insipid”, which come from *merwi-, and are based on the same root as *marnaid*, are useless for our purposes, because they could be derived from the secondary root *mer-, rather than being directly from *merH₂-w-i-.

Sometimes, however, there are forms which are traceable back to Proto-Celtic, and which are based on Proto-Indo-European roots which ended with a laryngeal, but there is no evidence for any other related forms in which the laryngeal could

¹⁰ However, this is semantically difficult, since it requires a change from “blue” to “yellow”. Colour terms do seem to be particularly vulnerable to change, but since Lat. *flavus* means “yellow”, we might want to see an indigenous formation. It might be just possible to resurrect de Bernardo Stempel's proposal if we reverse her use of the evidence. In this case *blá* could be from *b^hʰH-wo- by way of *blāwos. If the final glide were retained after long vowels, but lost after short, then the remaining *blā would have become *blā by regular lengthening of absolute final vowels in monosyllables in Old Irish. This would require the abandoning of W. *breuad* as evidence for *(-)CṚHw-, and is extremely speculative.

have been lost regularly. It is then reasonable to assume that these are old primary formations, directly based on the original root. OIr. *selb* “ownership, possession”, MW. *helw* “possession” and the Gaulish personal name *Luguselua* “possession of Lugus” point to a preform **sel-wā*. However, the Proto-Indo-European root is **selH₁-* (cf. Gk. *heleîn* “take, seize”, LIV 529), and there is no evidence for other formations based on this root in Proto-Celtic. Consequently, it seems likely that this form is good evidence for a loss of laryngeal between consonantal resonant and *w.

OIr. *delb* “form, appearance, image, stature”, MW. *delw* “form; manner, way; statue, image, idol” go back directly to **del-wā*, but the Proto-Indo-European root was **delH₁-* (LIV 114). The evidence of these forms is less clear-cut. A Welsh verb *ethyl* “choose, extract” < **eks-dol-* is attested, and another Old Irish noun *dolb* “sorcery, illusion, mystery” < **dol-wā*. The Welsh verb will be derived from an original causative formation **dolH₁-eye-* in which the laryngeal would have been regularly lost. However, if a secondary root was created on the basis of this verb, we would expect it to be **dol-* (which would explain *dolb*) rather than **del-*, and there is no evidence for any other verb forms with a root **del(H₁)-*. The variation in the semantics between the various forms suggests that they may be old, created when laryngeals still existed. If this is the case, then **del-wā* will also be evidence of the loss of laryngeals after consonantal resonants and before *w. On the other hand, it is not implausible that there might have been other verb formations in Proto-Celtic which were subsequently lost, and from which a root **del-* was more obviously extractable.

Also difficult is the evidence of OIr. *tanae* < **tanawyo-*, MB. *tanau*, C. *tanow* < **tanawo-* “thin, fine, narrow”. The cognates Gk. *tanaós* “stretched, tall, long”, Lat. *tenuis* “fine, delicate” suggest a root **tenH₂-*. It is possible that the preform could be **tenH₂-wo-*; if this became **tanawo-* then it would subsequently become **tanawo-* by a regular rule of vowel assimilation in Celtic. This would go against the evidence of *selb* and *delb*. However, it could also be the result of **t_hH₂-ew-o-* as suggested by Beekes (1976: 11-12) and Schrijver (1991: 219). Consequently, we probably cannot use this form as evidence.

Equally tricky is OIr. *arbor* “grain” < **H₂erH₃w_r*, genitive singular *arbae* < **H₂rH₃wens*, for which comparative evidence exists in the form of Lat. *aruum* “field”, Gk. *árowra* “arable land”. The nominative would support the evidence of *selb*, but the oblique cases seem to suggest loss of the laryngeal after vocalic resonant and before *w. This would contradict our tentative findings above that **(-)CRHw-* gave **(-)CRāw-*. It could be that the regular loss after consonantal *r in the nominative was generalised. It is also possible that **H₁Hw-* had already become **arHw-* (cf. OIr. *art*, Gk. *árktos* “bear” < **H₂rtkos*) by the time of the loss of *H before *w, as I hope to argue elsewhere. Alternatively, there may have been a rule of dissimilatory loss of the second laryngeal in a cluster **HRH-* (Joseph 1982: 55; cf. OIr. *ainm* “name” < **anmen* < **H₃mm̄* < **H₃ḡH₃m̄*).

6. Conclusion

An investigation into the evidence available for the reflexes of laryngeals between vocalic and consonantal resonants and *w has been carried out. It is concluded that it is unlikely that *CR̥Hw- gave *CR̥āw- in Proto-Celtic. There are very few forms which must represent *CR̥Hw- rather than *CR̥eHw-, so there is only slim evidence for *CR̥Hw- > *CR̥āw-. However, this is on balance the more likely reflex. There is slightly more evidence for a change *(-)VR̥Hw- > *(-)VR̥w- (although counter-evidence does exist, it is amenable to alternative explanations).

If the conclusions above are correct, then the situation is different from that of laryngeals between resonants and *y, where no reflexes of the laryngeals are found, regardless of whether the resonant is vocalic or consonantal. The two possible explanations both suggest the spreading of the possible environment for laryngeal loss in Proto-Celtic:

- a) *H was lost after consonantal resonants and before glides (*y, *w). Subsequently *H was also lost after vocalic resonants and before *y.
- b) *H was lost after consonantal or vocalic resonants and before *y. Subsequently *H was also lost before *w, but only after consonantal resonants.

At base, this investigation can be seen as an example of the difficulties that are encountered in trying to reconstruct the reflexes of phonemes in ancient languages and language families. If the (tentatively offered) conclusions are accepted they are also interesting in seeming to suggest an instance of the spreading of a sound change, initially from a quite restricted phonetic environment to a less restricted one (as discussed by Kiparsky 1995: 642-644, for example).

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*Sound Change in Proto-Celtic: Laryngeals Before *w*

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