



## WHAT HAPPENED TO PRIMITIVE CORNISH /I/ WHEN LONG IN CLOSED SYLLABLES?

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### ABSTRACT

Of the four unrounded front vowels in Primitive Cornish, /i/, /ε/ and /a/ remained stable when long in closed syllables, but /ɪ/ had a tendency to fall together with /ε/. Jackson (1953) and Williams (1995) dated this change to the twelfth century, but the present research indicates that in most words, the change took place substantially later. An analysis of spellings and of rhymes show that not all words changed at the same time. Most stressed monosyllables in historical /-ɪz/ were pronounced [-ɪ:z] in Middle Cornish and [-ε:z] in Late Cornish. Those with historical /-ið/ and /-iθ/ were dimorphic in Middle Cornish (i.e. they were spelled with both <y~i> and <e>), showing the sound-change in progress during that time. The process of change from [ɪ:] to [ε:] was one of lexical diffusion. The implications for the revived language are briefly examined.

**Keywords:** Cornish, front vowels, lexical diffusion.

### 1. Introduction

Jackson (1953) showed that there were four unrounded front vowels in Primitive Cornish and Breton. Examples are given in Table 1:

Table 1. Unrounded front vowels

	<b>Cornish</b>	<b>English</b>	<b>Welsh</b>	<b>Breton</b>
//i//	<i>mis</i>	month	<i>mis</i>	<i>mis</i>
//ɪ//	<i>bys</i>	world	<i>byd</i>	<i>bed</i>

//ɛ//	<i>pes</i>	how many	<i>ped</i>	<i>ped</i>
//a//	<i>mas</i>	good	<i>mad</i>	<i>mad</i>

They will here be labelled //i//, //ɪ//, //ɛ// and //a//<sup>1</sup>, but //a// plays no real part in the discussion. In Welsh, the phoneme corresponding to CB //ɪ// was already /i/. When stressed and long in closed syllables, /i/ and /ɛ/ remained stable in all three languages. According to Jackson (1967: 92), in Breton, /ɪ/ was lowered and fell together with /ɛ/ “by the end of the O[ld] B[reton] period”, i.e. c.1100. He also suggested (Jackson 1953: 284) that the same happened in Cornish at about the same time.

The present author (George 1984) put forward a much later date for the change /ɪ/ > /ɛ/ when stressed and long in closed syllables, viz. c.1650. This was based on the fact that in Middle Cornish (MidC) the vowel was spelled with a mixture of <y>-type and <e> type spellings, while in Late Cornish, Lhuyd usually spelled it as <ê>. I also suggested that the change did not take place simultaneously for all words, but rather that a process of lexical diffusion was at work. Thus in the Kernewek Kemmyn (KK) orthography (George 1986), which is based on the MidC phase, all four front vowels are identified: /i/ <i>, /i/ <y>, /ɛ/ <e> and /a/ <a>.

Williams (1995: 22) ascribed the lowering of [ɪ:] (in his terms /ɪ: > e:/) to his postulated prosodic shift, which he later dated to the twelfth century (Williams 2006: 29). He stated that the sound change “was probably accomplished soon after the prosodic shift”. He dismissed the many examples of <y>-type spellings in MidC in words containing the reflex of //ɪ// as orthographic conservatism:

Even though *byth* [i.e. 3rd sg. fut. and 2nd sg. impv. of *bos* ‘to be’] is overall more frequent than *beth* in all the Middle Cornish texts put together, we can be sure [sic] that the word was pronounced /be:ð/, because this was the regular form in Late Cornish (Williams 2006: 29).

Williams (1995: 170) applied these ideas when he devised the orthography known as UCR (Unified Cornish Revised). So he re-spelled *byth* ‘will be, be’ as *bedh*, thus making it indistinguishable from *bedh* ‘grave’.

Dunbar and George (1997: 39) showed that the orthographic profiles of stressed monosyllables containing /-ɪz/ in MidC and those containing /-ɛv/ are very different, and claimed that “in so far as one can prove anything in

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<sup>1</sup> As suggested by an anonymous referee, it is useful to distinguish the historical or etymological phonemes in the Primitive Cornish phase (600 to 800 AD) from phonemes later in the development; double slanted lines are used for the former, and single slanted lines for the latter.

historical linguistics, that the two phonemes had not fallen together in Middle Cornish” (Dunbar and George 1997: 39). They also identified MidC *cref* ‘strong’ as a word in which /ɪ/ > /ɛ/ early.

In his latest monograph, which is an attempt to discredit Kernewek Kemmyn, Williams (2006: 120) tackled in more detail the question of /ɪ/ when stressed and long in closed syllables. He listed numerous examples of stressed monosyllables containing /ɪ/, with their vowel spelled variously <e> and <y>, in both MidC and LateC, and also <ey>. His lists for <y> include *bysma* ‘this world’, which does not belong; here the <y> is short, as indicated explicitly in Lhuyd’s notebook, p.26. He took these spellings at their face value, and postulated two different developments, attributed to two putative dialects:

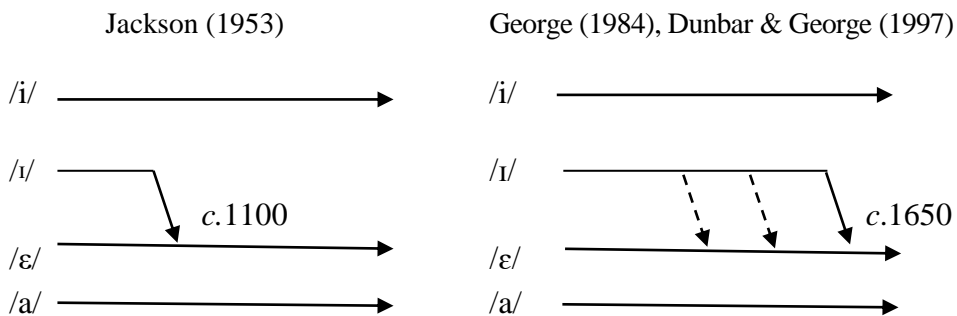
- (i) [ɪ:] > [eɪ] > [e:] to explain <e>-type spellings in LateC;
- (ii) [ɪ:] > [iɪ] > [ii] = [i:] to explain <y>-type spellings in LateC.

Having examined these spellings, his chapter finishes with a non sequitur:

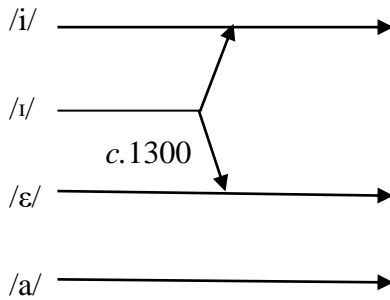
In fact, of course, [sic] there was no Middle Cornish /ɪ:/. The vowel had already fallen together with either /e:/ as a result of the Prosodic Shift or with /i:/ for phonetic reasons or by analogy (Williams 2006: 120).

By examining diphthongs in Cornish, Bock and Bruch (2010) showed that Williams’ hypothesis of a prosodic shift is untenable. Bock and Bruch (2012) also studied the development of //ɪ//, but primarily when the vowel was half-long in polysyllables.

To sum up, we have the following possibilities for the development of the long unrounded front vowels in closed syllables:



Williams (1995, 2006)



In this paper the development of //ɪ// when long in closed syllables is revisited in more detail. Not only the spellings but also the rhymes of the front vowels are taken into account.

## 2. Methodology

There are only three sources of information regarding the phonological history of Cornish:

- 1) Lhuyd's observations (1701)
- 2) Spellings of words in the texts
- 3) Rhymes in the texts

In addition, comparison with Breton and Welsh can be useful.

### 2.1. Lhuyd's observations

Table 2. shows that Lhuyd was aware of the sound-change [ɪ:] > [ɛ:]; it also suggests that /ɪ/ and /ε/ were in free variation.

Table 2. Extracts from Lhuyd's *Archaeologia Britannica* (1707)

AB018c Y *chang'd into E*

[W.] Prȳd, *Time* : Corn. Prêz.

[W.] Prȳv, *A Worm* ; Corn. Prêv.

W. Gulȳdh, *Chick-weed*; Corn. Glêdh.

W. Bȳs, *A Finger or Toe*; Corn. Bêz.

AB228a

*I and E were used indifferently by the Cornish.*

AB230a

*The Letter y in Cornish MSS. has various pronunciations.*

*For 1st 'tis frequently exchanged with e;*

2.2. Spellings of words in the texts

The multiplicity of spellings used in traditional Cornish to represent the three vowels /i/, /ɪ/ and /ɛ/ when long in closed syllables may be grouped into four types:

Table 3. Spelling systems used in Middle and Late Cornish

	Medieval spelling of Middle Cornish	Lhuyd's spelling	Signpost spelling of Vernacular Late Cornish
<y>-type = {y}	y, i	ŷ, î	i-e, ii-e, y-e, yi, ie, ye-e, ee, ee-e
<ey>-type = {ey}	ey, ei	ei	eye, ey-e, ei-e
<e>-type = {e}	e	ê	e-e, ea, ea-e

The traditional corpus of Cornish was divided into chronological blocks, as follows:

Table 4. Blocks of text in traditional Cornish

PHASE	CODE	TEXTS
Old Cornish	VC	Vocabularium Cornicum, plus minor pieces
Middle Cornish	CE.	Charter Endorsement, plus minor pieces
	PC.	<i>Passio Christi</i>
	RD.	<i>Resurrexio Domini</i>
	OM.	<i>Origo Mundi</i>
	PA.	<i>Pascon agan Arluth</i>
	BK.	<b><i>Bywnans Ke</i></b>
	BM.	<i>Beunans Meriasek</i>
	TH.	Tregear Homilies
	SA.	<i>Sacrament of the Altar</i>
	CW.	<i>Creacon of the World</i>
Late Cornish	Lh.	Works by Edward Lhuyd
	VLC	Vernacular Late Cornish

Tables were drawn up showing the numbers of spelling-types of a given word (or set of words) in each of these blocks; these are known as orthographic profiles.

2.3. Rhymes in the texts

Middle Welsh poetry used strict and complicated rules of rhyme in cynghanedd. Middle Breton poetry used strict and complicated rules involving internal

rhymes. In contrast, rhymes in Middle Cornish poetry were much looser. Nevertheless, the rhymes are a valuable source of information about the historical phonology. The textual material is arranged in stanzas, most<sup>2</sup> of which are based<sup>3</sup> on one of three principal rhyming schemes:

- a) ABABABAB;
- b) ABABCDDC;
- c) AABCCB.

Once the rhyming scheme of a stanza has been identified, one can ascertain which words rhyme, and indeed (often more usefully) which words contrast in rhyme. It was customary in Middle Cornish for stressed syllables to rhyme with unstressed syllables, and for voiced consonants to rhyme with unvoiced consonants. Rhymes in Late Cornish are more like those in English.

The concept of rhyming ensembles was introduced by Dunbar and George (1997: 94). A rhyming ensemble comprises sets of similar but not identical sounds which were customarily rhymed together in MidC verse. Typically sub-perfect<sup>4</sup> rhymes in a rhyming ensemble include:

- stressed syllables with unstressed syllables;
- voiced consonants with unvoiced consonants.
- sometimes similar but not identical vowels were rhymed<sup>5</sup>

### 3. Analyses of words with early Middle Cornish [ʔ:z]

#### 3.1. The DHIS, BYS, MES and TREYS sets of words

We first examine four sets of words ending in <-s> in Middle Cornish:

/-ɪz/	represented by <i>bys</i> ‘world’ is the set under investigation;
/-iz/	represented by <i>dhis</i> ‘to thee’, and
/-ɛz/	represented by <i>mes</i> ‘out’, and
/-eɪz/	represented by <i>treys</i> ‘feet’, are examined for comparison purposes.

<sup>2</sup> The schemes in CW are more complicated, and not always evident.

<sup>3</sup> There are numerous variations on the given rhyming schemes; see Bruch (2009).

<sup>4</sup> This adjective is not used in a derogatory manner; rhymes of this kind are so common in Middle Cornish that they would have been regarded as normal.

<sup>5</sup> In particular, words with /-iC/ (C is any consonant) were frequently rhymed with words in /iC/, but as we shall see, that does not mean that /i/ and /i/ had fallen together.

The core-words<sup>6</sup> in each set are those whose etymology is reasonably certain.

Table 5. Core words in the BYS set

KK	English	Origin	Welsh	Breton	Middle Cornish			Late Cornish
					{y}	{ey}	{e}	
<i>brys</i>	mind	Celt. * <i>brit-</i>	<i>bryd</i>	–	22	10	1	<i>Brêz</i>
<i>bys</i>	world	Celt. * <i>bitu-</i>	<i>byd</i>	<i>bed</i>	204	172	3	<i>Bêz, beaze</i>
<i>hys</i>	length	Celt. * <i>si-tu-</i>	<i>hyd</i>	<i>hed</i>	9	9	1	<i>Hêz</i>
<i>prys</i>	time	Brit. * <i>pritu-</i>	<i>pryd</i>	<i>pred</i>	38	12	1	<i>Prêz</i>

Note that all of these words in the sister languages end in /-d/; in Cornish, assibilation to /-z/ (though written <-s>) took place c. 1225.

Table 6. Core-words in the DHIS set

KK	English	Origin	Welsh	Breton	Middle Cornish			Late Cornish
					{y}	{ey}	{e}	
<i>dhis</i>	to thee	Cl.		<i>dit</i>	330	34	4	<i>theeze</i>
<i>mis</i>	month	Cl. * <i>mîns</i>	<i>mis</i>	<i>miz</i>	7	3	1	<i>Mîz, mees</i>
<i>pris</i>	price	MidE < OldF	<i>pris</i>	<i>priz</i>	8	2	0	<i>Prîz, preeze</i>
<i>sakrifis</i>	sacrifice	MidE < OldF	<i>(sacriffeis)</i>		18	1	0	–

This set contains both // -id// and // -is//

Table 7. Core-words in the MES set

KK	English	Origin	Welsh	Breton	Middle Cornish			Late Cornish
					{y}	{ey}	{e}	
<i>kres</i>	peace	Cl. * <i>kred-</i>	<i>cred</i>	<i>cret</i>	0	4	25	<i>eres</i>
<i>les</i>	profit	Cl.	<i>lles</i>	<i>les</i>	0	1	18	
<i>les</i>	width	Cl. * <i>letos</i>	<i>lled</i>	<i>led</i>				
<i>mes</i>	out	Brit. * <i>magest-</i>	<i>(maes)</i>	<i>(maez)</i>	0	3	205	<i>Mêz, meaz</i>
<i>nes</i>	near	Cl. * <i>ned-so-</i>	<i>nes</i>	<i>nes</i>	1	3	24	<i>Nêz, nez</i>

This set contains both // -ed// and // -es//.

<sup>6</sup> The analysis includes compounds of these words, where appropriate; e.g. norvys ‘world’ as well as *bys*.

Table 8. Core-words in the TREYS set

KK	English	Origin	Welsh	Breton	Middle Cornish				LateC
					{y}	{ey}	{e}	<yy>	
<i>leys</i>	mud	Brit. * <i>lat-jo-</i>	<i>llaid</i>	<i>(lec'hid)</i>	1	1	0	2	
<i>treys</i>	feet	Cl. * <i>trageŋ</i>	<i>traed</i>	<i>treid</i>	8	44	0	2	<i>Treiz</i>

## 3.2. Analysis of spellings in the texts

Every instance of the core-words in the texts was counted, and the results compiled in a spreadsheet, which supplied the numbers in columns 6 to 8 of the tables in section 3.1 above. The results are given in table 9.

Table 9. Spellings of the core-words in the four sets

		CE	PC	RD	OM	PA	BK	BM	TH	SA	CW	Lh	VLC
<b>DHIS</b> set (core)	{y}	5	75	44	83	19	46	65	5	5	16	46	41
	{ey}	0	0	0	3	1	0	5	0	0	31	1	1
	{e}	0	0	0	0	0	1	2	0	0	0	0	7
<b>BYS</b> set (core)	{y}	0	27	22	45	18	51	9	59	4	38	6	8
	{ey}	0	34	30	47	2	0	56	0	1	33	1	3
	{e}	0	0	0	1 <sup>7</sup>	1 <sup>8</sup>	2 <sup>9</sup>	1 <sup>10</sup>	0	1 <sup>11</sup>	0	16	31
<b>MES</b> set (core)	{y}	0	0	0	0	0	0	0	0	0	1	0	1
	{ey}	0	0	2	1	0	0	9	2	0	0	0	0
	{e}	2	26	54	39	18	21	37	0	1	32	24	30
<b>TREYS</b> set	{y}	0	5	5	0	0	0	0	0	4	3	0	0
	{ey}	0	18	1	2	0	0	5	5	0	0	5	0
	{e}	0	0	0	0	0	0	0	0	0	0	0	0
	<yy>	0	0	0	4	0	0	0	0	0	0	0	0

<sup>7</sup> *hes* 'length' at OM.0396

<sup>8</sup> *pres* 'time' at PA.020

<sup>9</sup> At BK22.54, *bes* (rhyming with *pup prys* 'always') is the earliest example of *bys* being spelled with <e>; it may mean ['be:z], or it may be a scribal error. At BK19.85, *brys* 'mind' is spelled *ves*, although it rhymes with *bys*; the other eight instances of this word in BK are spelled with {y}.

<sup>10</sup> At BM.4524, *beas* (for *bys* 'world') is a poor eye-rhyme with *guirhas* 'virgin'.

<sup>11</sup> On page SA60v, *nore ves* 'world' may be an early case of the new sound ['e:].



This and other tables use the following colour-coding:

- Instances of ten or more spelling-types are printed in bold; these are the important data. For these cases, the cells are shaded in bright green where:
  - a) etymological /i/ or /ɪ/ are spelled with {y} or {ey};
  - b) etymological /ɛ/ is spelled with {e}.
- Cells which fit the pattern of the green bold cells, but have fewer than ten cases, are shaded in light green. (This usually applies to data from CE and SA).
- Cases of historical /ɪ/ being spelled with {e} are shaded in orange. (In Table 3.2, these indicate that in Late Cornish [ɪ:z] had changed to [ɛ:z]).
- The cells shaded in pale yellow form fewer than 10% of the relevant total, and are regarded as exceptions.
- Pink is used for the surprisingly large number of cases of DHIS words being spelled with {e} in vernacular Late Cornish.

It is highly significant that of all of the Middle Cornish spellings in the BYS set, only 1.2% are of the {e}-type. Details and some explanations of these exceptional cases are given as footnotes. Ignoring these and the other yellow cells, and also the pink cell, a clear picture emerges, plotted as Table 10. (The green-shaded cells in this table indicate the usual spellings of the three sets of words). This is important because it identifies, apparently for the first time, the relationship between spelling and pronunciation for these words. Table 10 shows that, at least on a statistical basis, four of the texts in MidC distinguish /-iz/ and /-ɪz/ in these words.

Table 10 Frequent spelling-types for words in the DHIS, BYS and MES sets

		PC RD OM BM			PA BK TH			CW		
		{y}	{ey}	{e}	{y}	{ey}	{e}	{y}	{ey}	{e}
/i/	<b><i>dhis</i></b>									
/i/	<b><i>bys</i></b>									
/ɛ/	<b><i>mes</i></b>									

### 3.1.1. [-i:z], [ɪ:z] and [ɛ:z] were separate in Middle Cornish

Table 10 may be inverted to give table 11, which shows that four of the texts distinguished /i/, /ɪ/ and /ɛ/ when followed by /z/.

Table 11. Which phonemes are distinguished in writing?

	PC RD OM BM	PA BK TH CW
/-iz/ and /-ɪz /	yes	no
/-iz/ and /-ɛz /	yes	yes
/-ɪz /and /-ɛz /	yes	yes

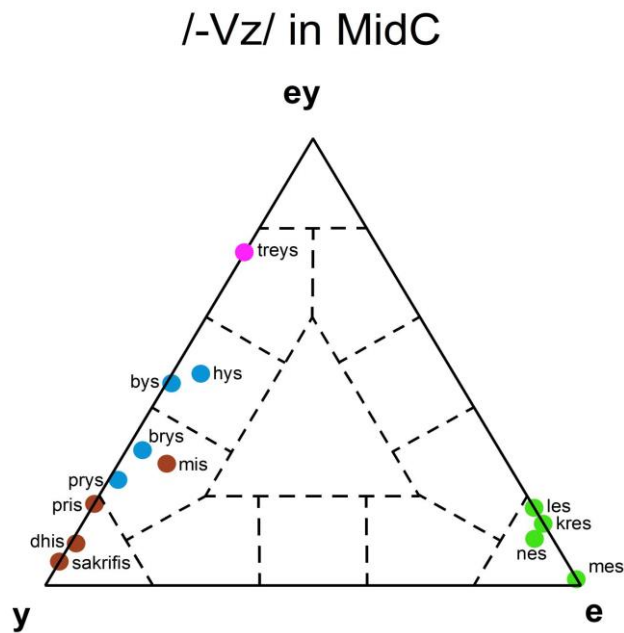


Fig. 1 /-Vz/ in Middle Cornish

This same result is also evident from the ternary diagram (Fig. 1). It shows the MES set (in green) clustering around the {e}-vertex, and clearly separated from the other words. The DHIS set (in brown) clusters around the {y}-vertex<sup>12</sup>. The blue cluster along the {y}-{ey} side represents the BYS set. The clusters are sufficiently well separated to confirm that in general in MidC: the three front vowels were distinct when followed by /-z/.

<sup>12</sup> Except for *mis*, which in BM is spelled thrice with <ey> and once with <e>. BM is a text which used <ey> more as a marker of quantity than quality. Scribe A of BM (Rad[ulphus] Ton) used <ey> for [i:] and [e:] as well as [ɪ:], (but Scribe B, who rewrote the first 260 lines, did not). This upsets the statistics. In the same way, Scribe B used <oy> for both /o/ and /ɔ/, which Williams (2006:chapter 7) mistook to mean that these two phonemes had fallen together.

## 3.2.2. The meaning of the spelling-types

Table 10 may also be inverted to give table 12.

Table 12. The meaning of spelling-types in each text

	PC	RD	OM	PA	BK	BM	TH	CW
{y}	/i/ or /ɪ/							
{ey}	/ɪ/					/ɪ/		/i/ or /ɪ/
{e}	/ɛ/							

- {y} is ambiguous in all texts; it may mean /i/ or /ɪ/.
- {ey} means /ɪ/ in PC, RD, OM and BM, but in CW it is ambiguous (/i/ or /ɪ/).
- In all texts the number of cases of {e} being used for /i/ or /ɪ/ is so small as to be exceptional: {e} is therefore a marker of /ɛ/. This may seem obvious, but to the author it was a revelation. (Previously I wondered if /ɪ/, as a vowel between /i/ and /ɛ/, might not be represented by a mixture of {y} and {e}; but it is now clear that {e} means /ɛ/ and not /ɪ/). Indeed, if a word with //ɪ/ is found in a later text regularly spelled with {e}, then it may be taken to have changed its vowel sound.
- In words with /eɪ/ such as treys, {ey} indeed meant [eɪ]; but in words with //ɪ//, it was employed to denote [ɪ:], a sensible choice since [ɪ:] lies between [i:] and [ɛ:].
- In BM, <ey> is used primarily as a marker of length, just as <oy> is used in BM as length-marker in back vowels. {-eys} is anomalously used to spell unstressed [-ɪs].
- In CW, [-ɪs] was often spelled <-es>, reflecting the change [-ɪs] > [-ɛs]; the original [-ɛs] had by then been lowered to [-as].

## 3.2.3. The TREYS set

This set is included because the {ey} spellings of the BYS set were thought by Williams (2006: 119) and by Bock & Bruch (2012: 76) to represent a stage [eɪ] in the lowering of [ɪ:] to [ɛ:]. If this were the case, then it would mean //ɪ// would have fallen together with [eɪ] in the TREYS words; these would then have taken part in the alleged further development to [ɛ:]. Table 9 shows no case of {e} in the profile for the TREYS words. There is no trace of such a development.

The proportion of {ey} spellings for the word treys is significantly greater than that for the BYS words, so that treys (in purple) appears much higher on Fig. 1. More remarkably, the distinctive digraph <yy> was used for both leys and treys in OM. Rather than a gradual sequence of sound-changes involving

[ei], it is proposed that [ɛ:] was substituted for [i:] in the BYS words, at different times for each word; this is the process of lexical diffusion.

### 3.3. Analysis of rhymes of words with [V:z]

Though words containing [-'i:z] and [-'i:s] (the DHIS set) were naturally rhymed with one another on occasion, the number of such words was insufficient to form a large enough pool for the purposes of composition. These words were therefore usually rhymed, imperfectly, with words in [-'i:z] (the BYS set). Together the two sets formed part of a rhyming ensemble, here labelled *Riz*. The fact that words from each set were regularly rhymed with one another does not mean that /i/ when stressed and long had fallen together with /i/ in closed syllables; the orthographic profiles, and the fact that /i/ subsequently fell together with /ɛ/ while /i/ did not, shows that the two were kept separate.

Moreover, words in the DHIS and BYS sets were not rhymed with words in the MES set, which belonged to the *Rez* ensemble, usually written –es. Indeed, it was possible for the *Riz* and *Rez* ensembles to contrast in rhyme, as in the following stanza:

PC.1069	<i>ow tas ma ny yl bones</i> <i>Rez</i>	A	My Father, if it may not be
PC.1070	<i>may treylyo mernens the ves</i> <i>Rez</i>	A	that death turn away,
PC.1071	<i>sav y wothaf thym a reys</i> <i>Riz</i>	B	but that I must suffer it,
PC.1072	<i>the volnegeth re bo gures</i> <i>Rez</i>	A	Thy will be done;
PC.1073	<i>rak an scryptor bynyges</i> <i>Rez</i>	A	for the Holy Scriptures
PC.1074	<i>reys yv y vos guyr porrys</i> <i>Riz</i>	B	must of necessity be true. <sup>13</sup>

All of the rhyming words in the DHIS, BYS and MES sets were examined and assigned to a rhyming ensemble. The results are tabulated below. Sometimes it was difficult to decide which ensemble a group of rhyming words belongs to; occasionally it was impossible, in which case the classification  $\mathcal{R}^*z$ <sup>14</sup> is used.

<sup>13</sup> Translation by Graham Sandercock.

<sup>14</sup> For example, at OM.1446, my a greys ‘I believe’ is rhymed with moyses ‘Moses’; it is impossible to classify this rhyme as *Riz* or as *Rez*, so it is listed as  $\mathcal{R}^*z$ .

## 3.3.1. The DHIS set of words

Table 13. Total number of DHIS words in ensembles *Riz* and *Rez*

Text	CE	PC	RD	OM	PA	BK	BM	CW	VLC
<i>Riz</i>	0	31	15	42	10	10	20	32	0
<i>Rez</i>	0	0	0	0	0	0	0	0	0
<i>R*z</i>	0	1	0	0	0	0	0	1	0

No word in the DHIS set is associated with the *Rez* ensemble.

## 3.3.2. The core of the BYS set of words

Table 14. Total number of BYS core-words in ensembles *Riz* and *Rez*

Text	CE	PC	RD	OM	PA	BK	BM	CW	VLC
<i>Riz</i>	0	61	44	72	6	57	51	75	
<i>Rez</i>	0	0		1 <sup>15</sup>	1 <sup>16</sup>		1 <sup>17</sup>		5
<i>R*z</i>	0	0		1				1	

In Middle Cornish, 99% of the occurrences of the BYS core-words are found in the *Riz* ensemble; in Late Cornish a few are found in the *Rez* ensemble, because by then [-ɪ:z] had become [ɛ:z].

## 3.3.3. The MES set of words

Table 15. Total number of MES words in ensembles *Riz* and *Rez*

Text	CE	PC	RD	OM	PA	BK	BM	CW	VLC
<i>Riz</i>	0	1 <sup>18</sup>	0	0	0	0	7 <sup>19</sup>	1 <sup>20</sup>	0
<i>Rez</i>	0	12	34	10	2	2	14	4	3
<i>R*z</i>	0	0	1	0	0	0	0	2	0

<sup>15</sup> At OM.0387, *hys* ‘length’ ( a *BYS* word) is forced to rhyme with *nebes* ‘few’, *res* ‘need’ and *trylles* ‘...’; the <-es> in these three words, and their origin, show that the ensemble is to be classified as *Rez*. It does not mean that the pronunciation of *hys* had been lowered to [hɛ:z]; the very spelling *hys* argues against this: we are just dealing with poor rhymes.

<sup>16</sup> In stanza 029 of PA, *kekyffris* ‘also’ is rhymed with *benenas* ‘women’, *rag y welas* ‘to see Him’ and *a les* ‘widely’.

<sup>17</sup> At BM.3658, *brys* ‘mind’ is poorly rhymed with *ow kortos* ‘waiting’; the spelling of both words is distorted to produce an eye-rhyme in ensemble *Rez*: *vreyes* and *ov cortes*.

<sup>18</sup> At PC.0349, *geys* ‘mockery’ is rhymed with *gurys* ‘done’ on the following line; the only reason that these are classified as *Riz* is that both spellings end in <-ys>.

<sup>19</sup> These are all poor eye-rhymes; the spelling <-eys> has been used to force the words into *Riz*.

<sup>20</sup> At CW.2264, the word *les* ‘length’ sits uncomfortably with three words in /-iz/.



Table 17 shows that it has the same orthographic profile and rhyming pattern as the BYS set of words. We may reasonably deduce that the vowel in *spys* was [ɪ:].

### 3.4.3. y'n wis

This curious hybrid expression is Middle English *ywis* 'surely', with an infix pronoun, presumably meaning 'I know it'; it features in ensemble *Riz*.

### 3.4.4. *treys* 'feet'

As we have seen (table 9), *treys* had a distinctive orthographic profile, reflecting the pronunciation [-'eɪz]. At PC.0835 and OM.0760, the word formed a congruent rhyme with *leys* 'mud'. The word also featured four times, however, in the ensemble *Riz*:

Table 18. Words which were rhymed with *treys* 'feet'

Reference	Ensemble	1 <sup>st</sup> rhyming word	2 <sup>nd</sup> rhyming word	3 <sup>rd</sup> rhyming word
PA.046	<i>Riz</i>	<i>ʒys</i> 'to thee'	<i>tregis</i> 'domiciled'	<i>golhys</i> 'washed'
BM.2030	<i>Riz</i>	<i>confundijs</i> 'confounded'	<i>guanys</i> 'gained'	
CW.0020 <sup>21</sup>	<i>Riz</i>	<i>gwryes</i> 'done'	<i>pub preyse</i> 'always'	
CW.1747	<i>Riz</i>	<i>kevys</i> 'found'	<i>baradice</i> 'Paradise'	<i>leskys</i> 'burnt'

These rhymes were "half-rhymes", i.e. only the second element of the diphthong [eɪ] counted towards making the rhyme.

### 3.5. Additional sets and words found in both *Riz* and *Rez* ensembles

Certain words are found in both ensembles, *Riz* and *Rez*, which suggest that they were dimorphic, and perhaps in transition between /-ɪz/ and /-ɛz/.

<sup>21</sup> The MS actually has *skavall droose*, but the rhymes indicate that this is a mistake for *\*skavall dreyse*.

## 3.5.1. The LEHES set of words

The past participles of verbs in *-he* form a distinctive set. They are found in both the *Riz* and the *Rez* ensembles, the fact that they are much commoner in *Riz* may just be because *Riz* is itself much commoner than *Rez*. The {ey} spellings in PC, RD and OM (but not BM) indicate that the last syllable was stressed.

Table 19. Total number of LEHES words in ensembles *Riz* and *Rez*

	PC	RD	OM	PA	BK	BM	CW	Total
{y}	3	2	3	0	15	1		
{ey}	1	4	4	0	0	9	1	
{e}	0	2	0	0	0			
<ee>			1				1	
<i>Riz</i>	4	5	7	0	15	9	2	42 (89%)
<i>Rez</i>	0	3	1	0	0	1	0	5 (11%)

3.5.2. *gwrys* ‘done’Table 20. Orthographic and rhyming profiles of *gwrys* ‘done’

	PC	RD	OM	PA	BK	BM	TH	SA	CW	Lh	VLC
{y}	16	13	16	17	12	3	41	15	48	2	3
{ey}	1	0	10	0	1	27	0	7	0	7	1
{e}	1	2	3	1	0	0	0	2	3	0	23
Other					1						2
<i>Riz</i>	8	5	19	7	6	14			38		1
<i>Rez</i>	1	3	2	4	0	0			0		3
<i>R*z</i>									2		

The word *gwrys* comprises the root *gwr-* and the ending *-ys* for past participles. Most of the spellings and rhymes reflect [ˈgwɾiːz], but it is clear that a newer form [ˈgwɾɛːz] also existed in MidC.



3.5.3. *res* ‘necessity’

Table 21. Orthographic and rhyming profiles of *res* ‘necessity’

	PC	RD	OM	PA	BK	BM	TH	CW	Lh	VLC
{y}	1		8	10	18					
{ey}	14	18	10	2		24				
{e}	1		8	1	1					
<i>Riz</i>	10	2	3	2		4		4		
<i>Rez</i>		2	1	1				1		

It is of interest to compare this word with *spys* (para. 3.4.1). The vowel in both arose from i-affection of a. It is therefore tempting to suppose that i-affection of a always gave /i/, but table 21 shows that this is not the case.

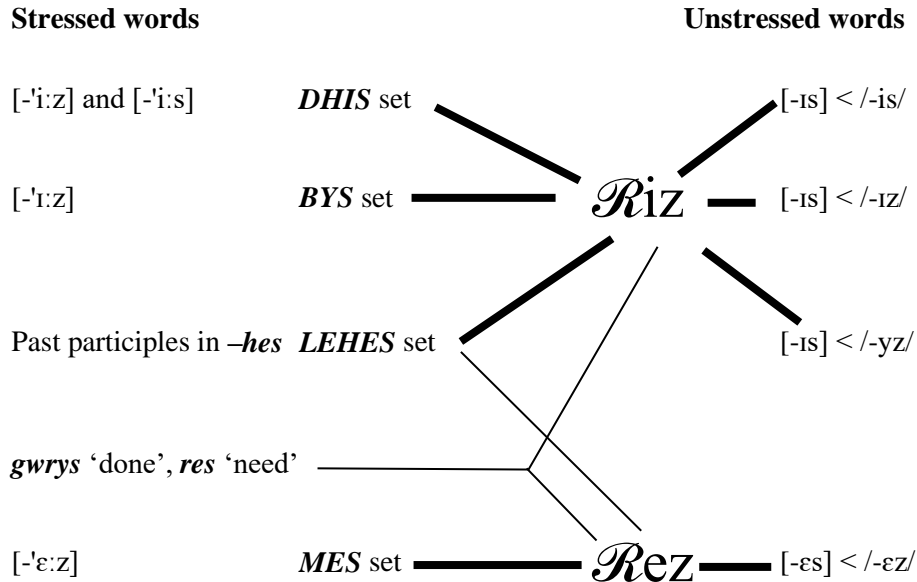
Table 22. Words which suffered i-affection of British a

KK	English	Origin	Welsh	Breton	OldC	MidC	LateC
<i>bregħ</i>	arm	Lat. <i>bracchium</i>	<i>braich</i>	<i>brec’h</i>	<i>Bregħ</i>	<i>bregħ</i>	<i>Brêh</i>
<i>gwreg</i>	wife	Cl. <i>*yrakō</i>	<i>gwraig</i>	<i>gwreg</i>	<i>grueg</i>	<i>gurek</i>	<i>gwreage</i>
<i>hes</i>	shoal	Brit. <i>*satjo-</i>	<i>haid</i>	<i>hed</i>	–	–	<i>Hêz</i>
<i>res</i>	necessity	Lat. <i>ratiō</i>	<i>rhaid</i>	<i>ret</i>	–	<i>rys, res</i>	–
<i>spys</i>	interval	Lat. <i>spatium</i>	<i>ysbaid</i>	–	–	<i>spys</i>	–

Late Cornish *Hêz* may have been preceded by *\*hys*, but in the case of *bregħ* and *gwreg*, the result of the affection was /ε/ rather than /i/. Languages are just not as neat as we might like them to be!

3.6. Summary of results from rhymes

The following diagram illustrates the contents of the two ensembles in early MidC.

Table 23. Total number of rhyming words in ensembles *Riz*, *Rez* and *R\*z*

Text	CE	PC	RD	OM	PA	BK	BM	CW	VLC	Total
<i>Riz</i>	0	472	264	451	404	358	540	525	7	3021 (86%)
<i>Rez</i>	6	66	100	90	24	20	79	20	35	440 (13%)
<i>R*z</i>	0	2	4	4	4	0	6	13	0	33 (1%)
Total	6	540	368	545	432	378	625	558	42	3494

Table 23 shows that the numbers of rhyming words in the ensembles are very different. Ensemble *Riz* is more than six times the size of ensemble *Rez*. The percentage of rhyming words which cannot be classified (ensemble *R\*z*) is very small, which justifies the method used.

### 3.7. Discussion about /-iz/

Nicholas Williams' ideas about the development of /i:/ are very different from mine. In Williams (2006: chapter 11), he lists many examples (but not exhaustively), but does not count them, nor examine the differences between different texts. On p. 119 he postulates two different dialectal developments of /i:/, both resulting from his putative 13th century prosodic shift.

Raising dialect R      [i:] → [ii] → [i:] <y>  
 Lowering dialect L    [i:] → [e'] <ey> → [ε:] <e>

If this were correct, one would expect {y} in texts in dialect R, and {ey} > {e} in texts in dialect L, viz. a set of data as a function of time such as:

R	L	L	R	L	R	R	L
y	–	–	y	–	y	y	–
–	ey	ey	–	–	–	–	–
–	–	–	–	e	–	–	e

but we actually find, from Table 8 for the BYS set:

PC	RD	OM	PA	BK	BM	TH	CW	Lh
VLC								
y	y	y	y	y	y	y	y	y
y								
ey	ey	ey	–	–	ey	–	ey	–
–								
–	–	–	–	–	–	–	–	e
e								

Five of the ten blocks of text have both {y} and {ey}, which one would not expect from Williams’ hypothesis.

#### 4. Analyses of words with /-i:ð/ and /-i:θ/

##### 4.1. Sets of words

Here again we examine three sets of words, as listed in Table 24.

Table 24. The GWITH, DYDH and BEDH sets of words

Phonemically	Type-word	Other words in the set
/-i:θ/	<i>gwith</i> ‘keep’	<i>lith</i> ‘limb’, <i>skwith</i> ‘tired’
/-i:ð/ /-i:θ/	<i>dydh</i> ‘day’	<i>a’fydh</i> ‘thou hast’, <i>bydh</i> ‘will be, be!’, <i>denvyth</i> ‘nobody’, <i>dohajydh</i> ‘afternoon’, <i>fydh</i> ‘faith’, <i>gwryth</i> ‘performance’, <i>gwydh</i> ‘trees’, <i>hanter-dydh</i> ‘midday’, <i>puptydh</i> ‘every day’, <i>seuladhydh</i> ‘formerly’, <i>syth</i> ‘upright’, <i>travyth</i> ‘nothing’, <i>vyth</i> ‘at all’

/-ε:ð/ /-ε:θ/	<i>bedh</i> 'grave'	<i>edh</i> 'thou goest', <i>eth</i> 'went', <i>eth</i> 'eight', <i>eth</i> 'odour', <i>feth</i> 'beats', <i>freth</i> 'vigorous', <i>gweeth</i> 'worse', <i>gwredh</i> 'thou dost', <i>keth</i> 'same', <i>kledh</i> 'left', <i>kweth</i> 'cloth', <i>leth</i> 'milk', <i>medh</i> 'hydromel', <i>meth</i> 'shame', <i>pleth</i> 'plait', <i>redh</i> 'thou givest', <i>seth</i> 'arrow', <i>soweth</i> 'alas', <i>ynwedh</i> 'also' <sup>22</sup>
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#### 4.2. Analysis of spellings in the texts

The overall profile of spellings (table 25) is not so clear-cut as in the case of /Vz/, except for words in the BEDH set. The latter were spelled almost exclusively with {e}; the exceptions (shaded in rose) are caused by Tregear's spelling the word *keth* 'same' as *kyth* ~ *kith*, and Rowe's anomalous use of <ee>.

Table 25. Spellings of the core-words in the GWITH, DYDH and BEDH sets

		PC	RD	OM	PA	BK	BM	TH	SA	CW	Lh	VLC
<b>GWITH</b> set	{y}	7	7	13	1	6	6	10	–	5	6	9
	{ey}	0	0	1	1	0	2	0	–	0	0	0
	{e}	0	0	3	0	1	3	1	–	0	0	0
	Other						1					
<b>DYDH</b> set	{y}	96	81	95	38	116	55	101	1	94	17	51
	{ey}	18	20	14	1	2	0	36	2	0	6	0
	{e}	10	11	9	6	7	136	11	1	3	19	54
	Other						2		5	19	1	
<b>BEDH</b> set	{y}	0	0	1	0	1	0	25	1	1	0	6
	{ey}	4	4	0	1	0	3	0	1	0	0	0
	{e}	75	133	63	91	60	92	100	28	93	57	18
	Other					1					4	6

In Middle Cornish, {y} was still the most frequent spelling-type for the words in the DYDH set, but the proportion of {e} is significantly greater than for words in the BYS set. In BM, <e> was the dominant spelling; there we find *deth* where in other texts *dyth* 'day' is the norm. The question then arises: "Are the spellings in {e} anomalous, or do they represent secondary pronunciations [-ε:ð] and [ε:θ]?" The results from the BYS set suggest that the pronunciations with [ε:] are real. To confirm this, we examine the rhymes.

<sup>22</sup> Etymologically, *pyth* 'what, thing' belongs in this set, but its profile is more like *dydh* 'day'; it is not counted in Table 24.

4.3. Analysis of rhymes of words with /V:ð/ and /V:θ/

Again, we define rhyming ensembles:

- $\mathcal{R}i\delta$  includes rhymes in /-ið/, /-iθ/, /-ið/ and /-iθ/;
- $\mathcal{R}e\delta$  includes rhymes in /-εð/ and /-εθ/;
- $\mathcal{R}^*\delta$  rhymes in /-Vð/ and /-Vθ/ where the intended vowel V is indeterminate.

The numbers of rhymes in these ensembles are given in the following tables.

Table 26. Rhymes of words in the GWITH set

Text	CE	PC	RD	OM	PA	BK	BM	CW	VLC
$\mathcal{R}i\delta$	0	3	3	4	2	0	0	1	0
$\mathcal{R}e\delta$	0	0	0	0	0	0	0	0	0
$\mathcal{R}^*\delta$									

The GWITH set of rhyming words appears only in ensemble  $\mathcal{R}i\delta$ .

Table 27. Rhymes of words in the BEDH set

Text	CE	PC	RD	OM	PA	BK	BM	CW	VLC
$\mathcal{R}i\delta$	0	2	0	0	1	0	0	0	0
$\mathcal{R}e\delta$	1	17	63	17	31	23	14	0	0
$\mathcal{R}^*\delta$									

Almost all of the rhymes of words in the BEDH set belong to ensemble  $\mathcal{R}e\delta$ .

Table 28. Rhymes of words in the DYDH set

Text	PC	RD	OM	PA	BK	BM	CW	VLC
$\mathcal{R}i\delta$	31	31	28	6	13	0	7	1
$\mathcal{R}e\delta$	5	1	9	8	0	21	0	0
$\mathcal{R}^*\delta$								

The number of rhymes in  $\mathcal{R}e\delta$  is considerably greater than the equivalent in table 3.3.3, and cannot be considered as exceptions. We conclude that, in Middle Cornish, words in the DYDH set were definitely sometimes pronounced with [ε:], i.e. the sound-change [ɪ:] > [ε:] was in progress.

5. Words with /ɪ/ + other final consonants

/-ɪz/, /-ɪð/ and /-ɪθ/ have been examined in detail, because there are large numbers of examples. Other cases of /-ɪC/ have far fewer examples, and may be dealt with more briefly.

## 5.1. /-ib/

This is found in only three words, the results are scanty but very clear: {y} was used exclusively in MidC and {e} in LateC, indicating a late lowering of the vowel.

Table 29. Orthographic profile of a dyb ‘thinks’, glyb ‘wet’, ryb ‘next to’

	PC	RD	OM	PA	BK	BM	TH	CW	Lh	VLC
{y}		3		4		11	1	2		
{ey}										
{e}									14	6

## 5.2. /-ix/

Before BK was discovered, only one such word was known: sygh ‘dry’ < Lat. siccus; it has the following profile.

Table 30. Orthographic profile of *sygh* ‘dry’

<i>sygh</i>	PC	RD	OM	PA	BK	BM	TH	SA	CW	Lh.	VLC
{y}			2		1						
{ey}				1					2		
{e}	2		6		1					2	4
{a}										1	

The {e}-spellings and the rhyme with *pegh* ‘sin’ at OM.0757, show that the change [i] > [ɛ] was already in progress in Middle Cornish.

In BK, we find *vrygh* (BK15.21), a lenited form which may mean ‘pox’ (W *brych*, B *brec’h*).

## 5.3. /-iv/

*kryv* ‘strong’ is spelled with <e> only twice in Middle Cornish, compared with 45 times with {e} and 5 times with {ey}; the change to [ɛ:] from OldC *crif* was therefore very early, as noted by Dunbar and George (1997: 41).

*a-dryv* ‘behind’ is found only in PA.079 (apart from copying by Lhuyd and Pryce); it is there spelled *a dryff*, and is not a rhyming word.

*pryv* ‘worm, reptile’ has the following profile.

Table 31. Orthographic profile of *pryv* ‘worm, reptile’

<i>pryv</i>	VC	PC	RD	OM	PA	BK	BM	TH	SA	CW	Lh.	VLC
{y}	2									2	1	
{ey}										4		
{e}					1		2			3	7	

Rowe’s *hagar-breeve* (the serpent which tempted Eve) suggests that no sound-change had taken place, but the fact that Rowe spells *nev* ‘heaven’ (which definitely contains /ε/) as *neeve* tends to negate this.

At BM.4133, *preff* is rhymed with *grueff* ‘face’; the only way that this can form a congruent rhyme is if [ˈpri:v] has become [ˈprɛ:v] and [ˈgrœ:v] has been unrounded to [gr’ɛ:v].

#### 5.4. /-ɪn/

This is represented by just one word, but a very common one: *dhyn* ‘to us’:

Table 32. Orthographic profile of *dhyn* ‘to us’

<i>dhyn</i>	PC	RD	OM	PA	BK	BM	TH	SA	CW	Lh.	VLC
{y}	47	42	36	15	8	63	101	2	7	5	5
{ey}	0	0	0	1	1	0	0	0	1	0	0
{e}	0	0	0	0	2	2	11	6	0	1	3

The change [-ɪ:n] > [-ɛ:n] began at the time of BK (c. 1450), but the earlier form was not entirely superseded in Late Cornish; instead the word was replaced by *tha ny*.

#### 5.5. /-ɪr/

Lat. *viridis* ‘green’ became Old Cornish *guirt* /gwɪrð/; when the final consonant was lost, the vowel was lengthened, and at some stage lowered, so that the Late Cornish form recorded by Lhuyd was *gwêr*.

Lhuyd’s *yr* (AB042c), *êr* (AB136c) ‘fresh’ may be another case of /-ɪr/.

## 6. Summary of results

We are now in a position to produce an improved diagram showing the change from /ɪ/ to /ɛ/ (Fig. 2), and to confirm that the process was lexical diffusion.

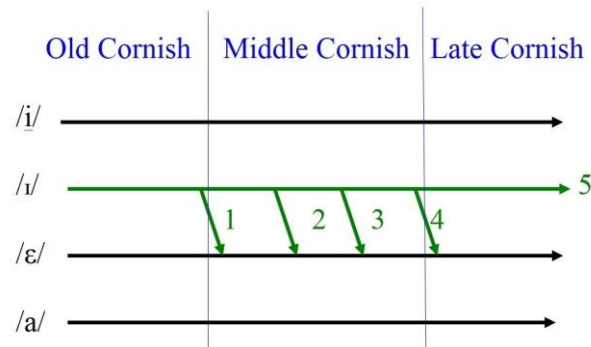


Fig. 2 Evolution of the front vowels

In the following table, we identify which words suffered the sound-change at the various times:

Table 33. When did various words suffer the sound change [ɪ:] &gt; [ɛ:] ?

English	Old Cornish	Middle Cornish	Late Cornish
<b>1) Change occurred earlier than the MidC phase</b>			
strong	<i>crif</i>	<i>(cryff) ~ cref</i>	<i>krêv, kreaue</i>
<b>2) Change already in progress in Middle Cornish, shown by dimorphism</b>			
day	<i>(det)</i>	<i>dyth ~ deth</i>	<i>deth</i>
will be	–	<i>byth ~ beth</i>	<i>Veath</i>
dry	–	<i>sygh ~ segh</i>	<i>Zeah</i>
worm	<i>prif</i>	<i>pryf ~ preff</i>	<i>(-breeve)</i>
done	–	<i>gwrys ~ gwres</i>	<i>gwrez</i>
(past ptcl.)	–	<i>-hys ~ -hes</i>	–
necessity	–	<i>rys ~ res</i>	<i>rez</i>
<b>3) Change from /ɪ/ in MidC to /ɛ/ c. 1450</b>			
to us	–	<i>thyn</i>	<i>dhen</i>
<b>4) Change from /ɪ/ in MidC to /ɛ/ in LateC</b>			
world	<i>bit</i>	<i>bys</i>	<i>beaze</i>
time	<i>prit</i>	<i>prys</i>	<i>Prêz</i>
beside	–	<i>ryp</i>	<i>reb</i>
<b>5) Change from /ɪ/ to /ɛ/ not recorded</b>			
believe(s)	–	<i>krys</i>	<i>kridj</i>
pray(s)	–	<i>pys</i>	<i>pidge</i>
interval	–	<i>spys</i>	–



7. Implications for revived Cornish

Whereas in the Middle Ages, it was quite natural to spell a given word in several different ways, in more recent times the idea has grown up that every word should always be spelled the same way. This principle evidently flies in the face of dimorphic words, so it is not surprising that arguments have raged as to which is “correct” – *sygh* or *segh*? *gwrys* or *gwres*? Since most of the reconstructions of Cornish are based on the Middle Cornish phase, orthographic designers have chosen the form perceived to be current in Middle Cornish. Even so, Nance sometimes cited both forms in his 1938 dictionary of Unified Cornish (UC), e.g. “Inf. BERHĒ·, to shorten: Past Part. *berhē-s*, *hȳ·s*.”

A minority of Cornish speakers has preferred to use Late Cornish as a base. In an attempt to reduce the chronic strife between these and the majority, a new “political” orthography was introduced (Bock and Bruch 2008). Unlike any previous spelling system, this attempts to satisfy the requirements of all factions of Cornish speakers. In order to do this, it allows variant spellings, as shown in Table 34; thus both forms of dimorphic words in historical /i/ may be catered for.

Table 34. Spellings in Revived Cornish of the important words studied

Type	English	MidC	LateC	UC	UCR	KK	SWF Middle	SWF Late
1	strong	<i>(cryff) ~ cref</i>	<i>krêv, kreaue</i>	<i>crēf</i>	<i>crēf</i>	<i>krev</i>	<i>krev</i>	<i>Krev</i>
2	done	<i>gwrys ~ gwres</i>	<i>gwrez</i>	<i>gwrēs gwrȳs</i>	<i>gwrȳs gwrēs</i>	<i>gwrys</i>	<i>gwrys</i>	<i>gwres</i>
2	necessity	<i>rys ~ res</i>	<i>rez</i>	<i>rēs</i>	<i>rēs</i>	<i>res</i>	<i>res</i>	<i>res</i>
2	(past ptcpl.)	<i>-hys ~ -hes</i>	<i>-hyz, -es</i>	<i>-hēs -hȳs</i>	<i>hes</i>	<i>-hes</i>	?	?
2	day	<i>dyth ~ deth</i>	<i>deth</i>	<i>dēth</i>	<i>dedh</i>	<i>dydh</i>	<i>dych</i>	<i>dedh</i>
2	dry	<i>sygh ~ segh</i>	<i>zeah</i>	<i>sēgh</i>	<i>sēgh</i>	<i>sygh</i>	<i>sygh</i>	<i>segh</i>
2	worm	<i>prif ~ preff</i>	<i>(-breeve)</i>	<i>prȳf</i>	<i>prēf prȳf</i>	<i>pryv</i>	<i>pryv</i>	<i>prev</i>
2	will be	<i>byth ~ beth</i>	<i>veath</i>	<i>bȳth</i>	<i>bȳdh bēdh</i>	<i>bydh</i>	?	?
3	to us	<i>thyn &gt; then</i>	<i>dhen</i>	<i>dhyn</i>	<i>dhyn</i>	<i>dhyn</i>	<i>dhyn</i>	?

4	world	<i>bys</i>	<i>beaze</i>	<i>bȳs</i>	<i>bȳs</i>	<i>bys</i>	<i>bys</i>	<i>bes</i>
4	time	<i>prys</i>	<i>préz</i>	<i>prȳs</i>	<i>prȳs</i>	<i>prys</i>	<i>prys</i>	<i>pres</i>
4	beside	<i>ryp</i>	<i>reb</i>	<i>ryp</i>	<i>ryb</i>	<i>ryb</i>	<i>ryb</i>	<i>reb</i>
5	believe(s)	<i>crys, cres</i>	<i>kridj</i>	<i>crȳs</i>	<i>crȳs</i> <i>creys</i>	<i>krys</i>	<i>krys</i>	?
5	pray(s)	<i>pys, pes</i>	<i>pidge</i>	<i>pȳs</i>	<i>pȳs</i> <i>peys</i>	<i>pys</i>	<i>pys</i>	?
5	interval	<i>spys</i>	–	<i>pȳs</i>	<i>pȳs</i> <i>peys</i>	<i>spys</i>	<i>spys</i>	–

Kernewek Kemmyn, being based at least in part on etymology, has tended to spell the words under consideration with <y>, representing //ɪ//; thus new words based on Breton and Welsh forms use <y>, even though the attested words may have <y> ~ <e>, e.g. *gwlygh* ‘wet’ (W *gwlych*, B *glec’h*), *krygh* ‘wrinkle’ (W *crych*, B *krec’h*), cf. attested *sygh* ~ *segh* ‘dry’. This research shows that *res* ‘necessity’ and *-hes* (past participle of verbs in *-he*) would be better spelled *rys* and *-hys*.

## 8. Conclusions

Williams’ idea that /ɪ/ when long changed in the thirteenth century to either [ɛ:] or [i:] is manifestly untenable. The results of the present analysis show that the change from /ɪ/ to /ɛ/ took place at different times in different words, i.e. the process was lexical diffusion. This supports the earlier conclusion of Dunbar and George (1997). The revived language needs to take account of this.

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