

I. Phonology

0. Reconstructing the sound system of a long dead language is a hazardous affair. On the one hand, all relevant details have to be recovered and fitted into a linguistically acceptable system. This means that sounds which were in use in the language have to be distinguished as *phonemes* which can be contrasted to one another in minimal pairs. On the other hand we have to realise that we may never be able to recover the *phonetic* reality in full detail.

The basis for such a reconstruction must first of all be the *orthography*. In the case of Middle Cornish this orthography appears very irregular. Fortunately, this orthography has already been studied in great detail for a different, but similar, purpose. In his dissertation *A Phonological History of Cornish* (PHC), Dr Kenneth J. George has studied the orthographic profiles of most Cornish sounds at different stages of their development.¹ In the following paragraphs, George's studies form the main source for the description of the phonology of Middle Cornish.

Whereas George traces the development of each sound from LateBr/PrC (c. A.D.600/650) until the end of the eighteenth century, when Cornish as a living language ceased to exist, the approach of the present work is not diachronic, but limits itself to a single stage in a long development. In *The Pronunciation and Spelling of Revived Cornish* (PSR) George reconstructed the phonemic system of the language c. 1500 (corresponding to the date of *Beunans Meriasek*, written down in 1504) as a base for the pronunciation of RevC. At the same time he proposed a new, near-phonemic spelling for RevC. based on this reconstruction. This orthography is known as 'Common Cornish' or *Kernewek Kemmyn*.

Though both are based on PHC, the phonemic system given below for Middle Cornish differs in various points from George's system as given in PSR and used in *Kernewek Kemmyn*. One reason for this is the fact that whereas PSR relates to one particular date (i.e. 1500), the following description intends to cover the whole period from which Middle Cornish texts survive. Another reason is that in the following system I have tried rigorously to avoid attributing phonemic status to phonetic variants of a single phoneme, even when they were consistently kept apart at the phonetic level.

Vowels - Quantity

1 (a) In Middle Cornish the following vowels occur: /i/, /y/, /e/, /a/, /o/, /ó/, /ou/, /eu/ and /u/.

(b) All vowels can be either *long*, *half-long* or *short*. Vowel-quantity is not phonemic since it is almost entirely dependent on the following rules:²

a. In unstressed syllables all vowels are short.

¹ Unfortunately, this dissertation remains unpublished. Only the final part of it, concerning RevC, has been reworked and published as *The Pronunciation and Spelling of Revived Cornish*. For the rest only a number of articles concentrating on the methodology followed have been published; cf. bibliography.

² The real existence of half-long vowels in MC has been seriously doubted since George introduced these into *Kernewek Kemmyn*. I keep them here since they fit nicely in the set of rules for vowel-length. Since quantity is not phonemic, their importance for the following discussion is not very great. See also Note (4) below.

b. In stressed monosyllables, either open or closed by a single voiced consonant (but not when closed by a consonant cluster or a single voiceless consonant), vowels are always long (for the restriction, see also PHC 10.1.5(3)).

c. In other stressed syllables, vowels are short before consonant clusters and single voiceless consonants, and half-long before single voiced consonants.

(c) *Stress* is normally on the penultimate syllable, as in Welsh and in most dialects of Breton (but not in Vannetais) (PHC 5.3.2 and 6.2.7; PSR 5.3 and 5.5; and WG §§39-56 for the quantity system in W).

Always unstressed are the following monosyllables: the definite article /an/; the possessive pronouns /ow/, /dhe/, /y/ and /hi/; the verbal particles; and monosyllabic conjunctions and prepositions. The 'affirmative' forms of the suffixed personal pronouns may have been stressed on the ultimate (PSR 5.3.2).³

Note (1) It should be noted that epenthetic and svarabhakti vowels are not phonemic and have no influence on the position of the stress or on the length of vowels. Hence in words like e.g. /marw/ 'dead' (cf. B *marv*, W *marw*; but in MC regularly written <marow>, <marrow>) the /a/ is short. These svarabhakti vowels were, however, regularly pronounced in MC and were counted as syllabic in the poetical metres (PHC 10.1.5(2).)

(2) According to George (PSR 5.5.2), an /o/ before nasal plus dental consonant was often long when stressed. (But cf. §13 below.)

(3) In various loanwords a stressed vowel before /st/ appears to have been long; the most important example of this is /krist/ 'Christ'. (So PSR 5.5.2; but cf. MEG §97, where it is stated that in late OE, long vowels in closed syllables before groups like *st*, *sch* were regularly shortened, giving rise to double forms in ME. So it is imaginable that MC took part in this change, or borrowed the ME short forms to make them fall in with the MC quantity-system. In that case these stressed vowels before /st/ would have been short.)

(4) The normal rule in MC was for stressed syllables in polysyllabic words to have either a half-long vowel plus a single voiced occlusive, or a short vowel plus a voiceless occlusive. Under the influence of many loanwords not following this rule, at the end of the MC period voice was no longer a parameter in this rule and half-long vowels could also appear before voiceless occlusives. Circa 1600 most half-long vowels became long. (PHC 6.2.7 and 13.5.1; PSR 5.5.1 and 5.5.3).

2. In MC orthography vowel-length can be shown by adding an orthographic <y>, or sometimes <i> or <e>, to the vowel in question; e.g. <tays> /tas/ 'father', <glays> /glas/ 'blue'. Another way of showing length is to write the vowel double, as e.g. again in <taas> or in <graas> /gras/ 'grace'. A third way, mainly used in closed monosyllables (and occurring in BM only) is the addition of a so-called 'mute' or orthographic <e> at the end of the word; e.g. <skole> /skol/ 'school'. This latter way of representing vowel-length is clearly borrowed from English and ultimately derives from the French orthography. In general these orthographic representations of vowel-length seem to become more frequent towards the end of the MC period.

Shortness of vowels may be shown by the doubling of the following consonant, as in the orthography of <marrow> /marw/ 'dead' given above, or in <tassow> /tasow/ 'fathers'.

³ For RevC a list of words with stress on the ultimate or before the penultimate is given in Brown, *A Grammar of Modern Cornish*, §§9-10. For neither of these lists, however, an explanation is offered (and the lists differ markedly from comparable lists for Breton). In a letter *dd.* 11 March 1988 Mr Brown kindly explained to me that these lists are based on information given by Nance in his dictionary (ECCE).

Vowels - Quality

3. Before describing the vowels in detail, it might be well to take a look at the vocalic system as a whole.

(a) In *stressed* position, all vowels may occur, and they can be presented schematically as follows:

/i/	/u/	/ou/
/y/		/oe/
/e/	/eu/	/o/
	/a/	

Except for the rounded front vowels, which were never short, all the stressed vowels can occur either long, half-long or short (cf. §1).

(b) For the *unstressed* vowels in final syllables different stages of development can be distinguished (pretonic vowels normally remained stable, but cf. §4 concerning pretonic /i/ being lowered):⁴

Stage 1: Until c. 1425 (i.e. in P). At this stage the back vowels were probably unrounded, and /y/ (resulting from older /-ydh/), /e/ and /a/ *in absolute final position* were reduced to **schwa**:⁵

/i/	/u/	/ou/
/y/		/oe/
/e/	[ə]	/o/
	/a/	

⁴ A clue as to the reason why vowels in posttonic (i.e. final) syllables developed differently from vowels in other unstressed syllables may be found in the articles on the Welsh accent by T. Arwyn Watkins in BCS 25.1-11 and BCS 26.399-405. There the argument is put forward that the main accent in OW, and probably in the other Brittonic languages as well, was a pitch accent on the ultimate syllable after the loss of Brittonic final syllables in the middle of the sixth century. The so called 'accent shift' of the eleventh century (i.e. according to Jackson; Watkins suggests an earlier date but does not define the absolute chronology of the change), was not so much a 'shift' but rather a concentration of the stress on the penultimate. Before this shift, stress would have been equally divided over all syllables in polysyllabic words (cf. BCS 25.5). The conclusion would be that after the 'accent shift' polysyllabic words had a stress accent on the penultimate, and a pitch accent on the ultimate.

⁵ Hence, these phonemes do not occur as full vowels in absolute final position; they are given in italics in the tables.

Stage 2: From c. 1425 till c. 1475 (i.e. in ORD). At this stage /e/ was always reduced to **schwa**, and the /i/ and /y/ from Stage 1. merged in a single (new) /e/:

		/ou/
		/oe/
/e/	[ə]	/o/
	/a/	

Stage 3: From c. 1475 till c. 1525/1575 (i.e. in BM). Circa 1475 the **schwa** of the previous stages was lowered and merged with /a/. After this, /o/ was reduced to a new **schwa**. After this again, /ou/ and /oe/ fell together and merged into a single (new) /o/:

	[ə]	
/e/		/o/
	/a/	

Note. The symmetry of this development of vowels in unstressed position will be obvious. In Stage 1 all vowel phonemes could still occur unstressed in final syllables, though with unrounding of the back vowels and reduction of original absolute final /e/ and /a/ to **schwa**. In Stage 2 original /e/ was also reduced when in closed final syllables, and the place left open by this in the system was taken by the result of the reduction of /i/ and /y/. Also in this stage, original /u/ had disappeared from unstressed syllables through unrounding and lowering to /y/, and subsequently to /e/. As a result of all this only one front vowel remained. Stage 3 is characterised by a parallel development for the back vowels. First **schwa** merged with /a/. Then original, but already unrounded, /o/ is reduced and takes the place left by the lowering of this **schwa**, and original, but unrounded, /ou/ and /oe/ are reduced and merge to take the place left empty by /o/. Now, only one front and one back vowel are left, while /a/ and **schwa** remain in the centre. The final stage, in early LateC, appears to have set in at c. 1550, when the remaining unstressed /e/ was lowered and merged with /a/ (cf. §7). Remaining /o/, unstressed in absolute final position, merged with /a/ c. 1525, and unstressed /o/ in closed final syllables did similarly c. 1575 or earlier (cf. §9).

4. /i/ sounded approximately like E *ee* in *need* or *street* or, more accurately, like the *i* in F *sire* or *lit* 'bed'. Its most frequent spelling in MC was <y> or, when long, <i(y)>.

In unstressed final closed syllables, /i/ was lowered in Late MC to /e/, as is shown in e.g. <kegen> besides earlier <kegyn> for /kegin/ 'kitchen' (cf. B *kegin*, W *cegin*).

5. /y/ sounded like *i* in E *sit*, *bit*. When long, this sound has no equivalent in English, but the *ea* in (King) *Lear* (though in fact a diphthong) forms a fair approximation. This phoneme originated from LateBr short *i*, and developed in both B and C into /e/ (cf. LHEB §7(2)). In C this change was not complete before the LateC period, and the shifting nature of the phoneme is well shown in its orthography in MC.

In closed monosyllables (i.e. when stressed and long) the following orthographic variation occurs (PHC Table 121):

orthography	CE+P	ORD	BM
i, i(i)_e	25 (19%)	7	2
y, y(i)_e	84 (65%)	653 (73%)	122 (33%)
eye, ey(_e), ei(_e)	1	185 (21%)	120 (33%)
e(_e)	19 (15%)	52 (6%)	121 (33%)

The change from <i>, via <y>, to <e>-orthography can clearly be seen from this table.

Word-finally, in open monosyllables, this phoneme is written <e> in 93% of the cases in P and <y> in the rest. In ORD this is 40% and 60% respectively, and in BM the distribution is 61% and 39% (PHC Table 122).

When half-long (i.e. stressed in polysyllables) the orthography shows the following variation (PHC Table 123):

orthography	CE+P	ORD	BM
i			3
y		97 (60%)	24 (22%)
e	26 (100%)	63 (39%)	83 (78%)

Which is surprisingly different from the short stressed variant (i.e. in polysyllables before consonant cluster or geminate), where the <y>-orthography was far more stable (PHC Table 124):

orthography	CE+P	ORD	BM
i			1
y	155 (90%)	769 (94%)	416 (82%)
e	17 (10%)	44 (5%)	64 (13%)
ei, ey			1
u		1	1
a		1	25 (5%)

In unstressed syllables the most frequent spelling is <y> (99% in ORD), besides 22% of instances with <i> in P and 14% with <e> in BM (PHC Table 126). Unstressed in absolute final position, where older [δ] had been lost, this sound was reduced to **schwa** ([ə]) which was lowered to /a/ c. 1475.

6. /e/ was a mid front vowel like E *e* in *bet* or *met*. When long it may have been somewhat more closed, sounding like F *é* in the words *liberté*, *fraternité*, *égalité*, and like German *ee* in *See* 'lake'. In E the *a* in *lake* (though in fact a diphthong) is the closest approximation available. The orthography shows generally <e>, or <ee>, <ei>, <ey> when long. All these notations can occur in monosyllables with or without a 'mute' <e> to indicate the length of the vowel. In a few rare instances in ORD and in BM <i, y>-type spellings also occur.

In some instances short stressed /e/ before /r, l, n/ + consonant underwent (secondary) i-affection caused by /i/ or /y/ (both as vowel or semi-vowel) in the following syllable. The result of this affection was always written <y>. Judged from their relative frequency, it is evident that in such cases <e> and <y> are not just orthographic variants denoting the same sound /y/, but that the MC authors perceived both affected and unaffected forms side by side (PHC 7.4.3). The most frequent examples showing this variation are:

/termyn/	'time'
/geryow/	'words'
/gelwys/	'called'
/henwys/	'named'
/selwys/	'saved'
/kelli/	'copse' ⁶
/kellys/	'lost'
/kelmys/	'tied'
/terri/	'to break'

For all these words, forms with <e> as well as with <y> in the first syllable occur, but it is noteworthy that the latter become less frequent as time proceeds (the *Tregear Homilies* form a surprising exception to this; they show 93% of spellings with <y>). In MC, the statistics are (PHC Table 134b):

orthography	CE+P	ORD	BM
e	13 (37%)	66 (62%)	49 (96%)
y	22 (63%)	41 (38%)	2 (4%)

In absolute final position, unstressed /e/ (also normally written <e> in P and ORD) was nearly always reduced to **schwa**. Presumably, this phoneme had become final through the loss of a following (final) consonant. This reduction did not, however, happen if the unstressed /e/ was not in absolute final position. As a result of this development forms like e.g. /enev/ [enef] and /ene/ [enə] 'soul', /dewlev/ [dewlef] and /dewle/ [dewlə] 'both hands', exist side by side. In the period between the writing of ORD and BM, probably c. 1475, this **schwa** in absolute final position was lowered to /a/, written <a>. Later still, c. 1550, /e/ in unstressed final closed syllables also changed into /a/ (PHC 7.4.4.-5).

⁶ Appears also as *killi-* in Place-Names; cf. Padel, *Cornish Place-Name elements*, p.47 s.v. *kelli*.

7. /a/ sounded like the *a* in Italian *Dante* or in German *Vater*, being slightly more fronted than the *a* in E *father*. In the orthography it was regularly represented by <a>. In cases where the vowel is long <ay>, <a_e>, <aa> or <ae> may also be found.

Like /e/, /a/ was reduced to **schwa** in unstressed absolute final position.

Exceptions to this reduction can be seen in the rhymes in O.640-47, 1165-72, 1899-906, D.431-42, 1977-84, 2174-80, 2423-30 and 2439-46, where it contrasts with final /e/.

These can be listed as follows (PHC 7.5.5 and PSR 11.4.4):

a. The demonstrative suffixes /-ma/ and /-na/ (c. 74%).

b. The *a*-suffix marking comparative and superlative degrees of adjectives (two instances, both /gwella/ 'best', forming c. 10% of the total of nineteen occurrences of unstressed /a/ in absolute final position).

c. Some individual words, such as the two loanwords /Eva/ (Proper Noun) and /laha/ 'law' (< OE *lahu*; ME *lawe*), and the word <vynytha> 'ever', which is of unknown etymology. (Both PHC 7.5.5 and PSR Table 1141 mention only *bara* 'bread' as an example of *some individual words*, an example I could not find in any of the passages mentioned above.)

A tentative explanation for these exceptions might be that the forms mentioned under a. and b. have had a long final vowel due to the previous loss of a final consonant, which would also explain /bara/ (< **baragen*-; cf. OIr *bairgen*). (This explanation would, however, create a class of exceptions to the quantity-rules given in §1.) The loanwords may have retained the final /a/ just because they were borrowed, hence requesting an special (unadjusted or posh) pronunciation. In the case of /Eva/ the sacredness of that biblical name may have played a role as well. This would leave only <vynytha> (a lenited form of /bynytha/; cf. O.1878) to be explained.

As said above (§5), this **schwa** was lowered to /a/ c. 1475.

8. /o/ was a mid back vowel, probably articulated at approximately the same height as its front counterpart /e/. The sound was more or less like *o* in E *pot*, or – when long – like *ou* in E *ought*. In the orthography its main representative is <o>, length being shown by <oi>, <oy> and <o(o)_e>. In some rare instances <ou>-type spellings and <oe> are also found.

Shortly after the MC period /o/ in final unstressed syllables changed into /a/ (c. 1525 in absolute final position, c. 1575 or earlier in final closed syllables). The occasional occurrences of <e> in this position in MC suggest that this change happened via **schwa**. Unstressed final /o/ must in that case have retained its full quality until after the change of **schwa** into /a/, c. 1475, as otherwise it would have coalesced with the reflexes of /e/ and /a/ in unstressed absolute final position (cf. §§3b and 6-7).

9. /oe/ was a rounded back vowel, more closed than /o/ and probably at the same level as /y/. Comparable in sound are the F homophones *eau* 'water' and *haut* 'high', or the vowel in German *hoch* 'high'. This phoneme is the reflex of a diphthong which can still be seen as <ui> in VC and in which earlier **oi* (W *oe*) and **ui* (W *wy*) had fallen together. The fact that later, c. 1625, this sound developed into a long /ou/ in closed monosyllables may be indicative of its relative closeness (PHC 8.3.4). In unstressed syllables, word-finally and before /a/, OC <ui> had become /o/ in MC (i.e. in the latter case /uia/ > /o/; cf. PHC 8.3.6).

In stressed closed monosyllables the orthography of /oe/ was <o>, with length shown in the variants <oi>, <oy> and <oe>. In ORD a few instances of <ou>-type spellings and of <oo(_e)> occur as well. With nearly 80% of the instances of /oe/, <o> is

the most frequent spelling in ORD. This in contrast with P and BM, where the digraphs <oi>, <oy>, <oe>, account for respectively c. 80% and 66% of the spellings (PHC Table 251).

In unstressed syllables, but not in absolute final position or before /a/, the spelling was almost always <u>, with occasional <o> proving that /u/ was not intended. In LateC /oe/ in this position seems to have become **schwa**, but as with /o/ this reduction cannot have taken place before c. 1475 (cf. §§3b and 8). The most frequent example of /oe/ in final closed syllable in MC is /arloedh/ 'lord', written as <arluth>, <arlud> (445 instances), <arloth> (5 instances). (PHC 8.3.7; cf. §§3b and 10 Note).

In a few words /oe/ is stressed as well as short, and shows the same variation between <o> and <u> orthography as in unstressed syllables. These instances are rare and occur only before /ll/, /mm/ and /nn/. This might indicate a sound comparable to the result of the reduction described above (i.e. with the sound of E *u* in words like *but*, *butter*). Examples of such words with short stressed /oe/ are (PHC 8.3.5 and PSR Table 1161):

/boemm/	'blow'
/broenn/	'rushes'
/poell/	'sense'
/toell/	'deceit'
/toemm/	'warm'

10. /ou/ is the sound of E *oo* in words like *root*, *boot*, *foot*, etc. Except in the word /gour/ 'man, husband' there are no native words in MC containing this phoneme. In all other cases PrC /ou/ had become /o/ (not /oe/, showing that this change must have preceded the monophthongisation of OC <ui>). In compounds the word /gour/ also appears as /gor-/ exclusively. So all other words in MC containing /ou/ are loanwords from ME, F or AN. The spelling also appears to be borrowed from French and is <ou>, <ov> or <ow> when the vowel is stressed.

In stressed monosyllables we find these <ou>-type spellings for nearly 100% of the occurrences of this sound; only in BM three examples with <o(y)> and one with <av> are found (PHC Table 171).

Unstressed in final closed syllables the orthographic profile is (PHC Table 176b):

orthography	CE+P	ORD	BM
ou, ov, ow	6 (75%)	48 (53%)	45 (75%)
o	2	40 (44%)	3
u		3	4
e(e)			4
y			4

Shortly after the MC period, c. 1525, stressed /ou/ was diphthongised and developed into a diphthong. This may have been following the Great Vowel Shift in

English; cf. the spelling and pronunciation of words like *house* and *mouse* which had a long /ou/ (= [u:]) in ME.

Unstressed, in final closed syllables, PrC /ou/ – which had elsewhere in MC become /o/ – had developed into a sound which shows the following orthographic profile (PHC Table 176a):

orthography	CE+P	ORD	BM
o(y)	11 (69%)	33 (45%)	12 (25%)
u	5 (31%)	35 (48%)	28 (58%)
y, e, a		5 (7%)	8 (17%)

Circa 1575 this sound became /a/. Unstressed final /o/ was never spelled <u>, so it is unlikely that these orthographic variants would represent that sound here, though especially in P it may have been very close to it.

Note. George (PHC 8.3.7(1) and PSR 11.6) introduces an unrounded allophone [ɤ] of /oe/ as the unstressed variant for it (cf. §9). For unstressed /ou/ in closed syllables he has a comparable problem of deviation from the expected orthographic pattern, which he solves by suggesting the possibility of a ‘genuine case of variation [u]~[ɔ]’ (PHC 7.7.4(2); cf. PSR 11.1, esp. Table 1171).

In my view the result of the reduction of unstressed /o/, /oe/ and /ou/ as considered above (§§8, 9 and 10) was unrounding, centralisation and lowering, resulting in something like [ʌ] (the sound of the vowel in *E but* or *butter*) for /o/ and **schwa** for both /oe/ and /ou/. Cf. Wakelin, *Language and History in Cornwall*, p.127-135, where it is made clear that in the English dialects of Eastern Cornwall the reflexes of ME closed and long *o* and *u* in certain words both resulted in either ‘a lowered variant of [y(:)]’ or in a closed variant of [ʌ]. It is to be noted that of these two the latter only is unrounded. If the sound systems of C and E merged during the period in which C was replaced, it is noteworthy that this change took place in C earlier than in E, so that if the changes in both languages are connected at all, this might be the only instance where E followed (or adapted to) C instead of the other way round (which in itself is not very likely).

11. /**eu**/ was the result of fronting of the LateBr vowel [ɔ:] from earlier long /a/. The sound is comparable to the vowel in F *sæur* ‘sister’, *peur* ‘fear’ and occurs in B cognate forms where W has mainly *aw*; e.g. MC /*meur*/ ‘great, big’, B *meur*, W *mawr*. In unstressed position /**eu**/ in C was unrounded early, c. 1075, and fell in with the development of /e/.⁷ Henceforth this phoneme occurs in MC stressed syllables only.

The orthography of MC /**eu**/ shows an enormous variation, which may be reduced to the following types:

⁷ Jackson's date (cf. LHEB §13, HPB §213). After considering the place-name evidence George considers a much later date (c. 1225) more likely (personal communication).

	'normal':	with length shown:
<u>-type	<u>, <v>	<uv>, <uy>, <u_e>
<ue>-type	<ue>	<uey>
<eu>-type	<eu>, <ev>	<ew_e>
<e>-type	<e>	<ee>, <ey>, <e_e>

Of these variants, ORD and BM show a marked preference for the <ue>-type spellings (c. 95%). In P the spelling is less clear, and rather surprisingly <eu>-type spellings are predominant there (c. 60% in closed monosyllables and c. 90% in open monosyllables, with no instances of <u> in the latter case!) (PHC Tables 181-182). Shortly after the MC period, c. 1525, /eu/ was unrounded to /e/ in stressed syllables as well, thus losing its status as a phoneme.

Some monosyllables containing this phoneme could occur either stressed or unstressed, dependent on their syntactical or grammatical function. In the word for 'each, every', derived from LateBr **pobɔs* (cf. B *peb*) this led to the development of two different forms. As a pronoun it was stressed and resulted in MC /peub/ (cf. W *pawb*), while as an unstressed adjective, it became /pob/ and sounded like [pɔp] (cf. W *pob*). In the orthography the spelling of the adjective is nearly always with <u>, with only two instances of <o> in ORD (cf. the orthographic variance of unstressed /o/, /oe/ and /ou/ and the conclusions drawn in §10 Note). The orthography of the pronoun is diverse and can be tabulated as follows (Padel, SC.14.235):

orthography	CE+P	ORD	BM
<u>		32	7
<o>	1	1	1
<e>	4	6	

In the *Tregear Homilies* and *The Creacion of the World* the spelling is consistently <peb> (cf. Padel, SC.14.233-237; PHC 7.8.3(5); LHEB §198(2); L&P §383(1).)

12. /u/ was a closed front vowel articulated in approximately the same position as /i/, but with rounded lips. As with the other rounded front vowel (/eu/) there was a tendency to unround /u/. When stressed this did not happen until well after the MC period, c. 1625, and the orthography of this sound in MC shows for nearly 100% variants of <u> or <v>-type spellings, with length shown by digraphs with added <i>, <y> or <e>, or by a 'mute' <e> at the end of a stressed monosyllable (PHC Tables 191-192).

When unstressed, this vowel was unrounded and subsequently lowered so that it merged with /y/ c. 1425. Thus in P we presumably still have /u/ in unstressed position, whereas in ORD and BM we find [i], spelled <y> in ORD and <e>, <y> in BM. That the result of the reduction of /u/ in unstressed position was /y/ rather than /i/ is probably due to the general tendency to lower closed vowels in unstressed position (PHC 7.10.3).

13. The treatment of **nasal vowels in loanwords**

Neither Middle Cornish nor Middle English had nasal vowels. Old French and Anglo-Norman did, and from this source many loanwords containing original nasal vowels entered both MC and ME, where they had to be fitted into the system. Furthermore, French does (and did) not have a phonemically distinct vowel quantity; all French vowels are distinguished by quality only. Therefore, borrowing languages are more or less free in interpreting vowels in borrowings from French according to length.

In AN /ã/, written <aN> (N = a nasal consonant; the group being within one syllable) became written <auN> in the 13th century. This has been interpreted as an indication of a gradual velarisation and rounding of the vowel to /o/, a development which may have originated in early ME, where [a:] changed into [ɔ:] during the 13th century (Pope, §1149-1152; MEG. §§211 and 184.1). In loanwords in ME these vowels were denasalised and perceived as being long. In ME words with AN /auN/ followed by /dz'/, /ts'/ or a labial consonant were borrowed with /aN/ early, c. 1300; cf. OF *chambre* ≡ AN *chaumbre* > early ME *chaumbre* > ME *chāmbre*, or OF *change* ≡ AN *chaunge* > early ME *chaunge* > ME *chāngen*. ME forms with <o>, an orthographic variant of <a> in this position, appear to be most frequent in the Southeast (Kent), while in the Southwest (in the writings of the Cornishman John Trevisa) there was a tendency to write <ay> in words like *chaynge*, *straynge*, *braynche*. Supposedly, this means /ay/ (with a glide) < /ā/ (Jordan, §224.III; MEG. §212).

In MC we find the words mentioned above as <chammbour> and <changya>, both apparently with a short /a/ (which would be regular). Other, probably later, borrowings have /o/, showing the later development of AN /ā/ > /ō/. George, basing his argument mainly on ME, interprets these vowels preceding nasal consonants as long (PHC 7.5.2 and 7.6.6(3)). In the orthography we find 55 instances (85%) with <o>, as opposed to two in P with <ou> and <u>, and eight in ORD with <a(u)>, which I would rather take to indicate a short vowel.

A similar phenomenon seems to be the borrowing of words with ME [un], spelled 23 times (over 90%) with <o> in MC, and only twice (once in P and once in ORD) with <ou, ow>. Again, basing himself on ME, George interprets this vowel as long and accounts for its lowering by the fact that /ou/ was originally unknown in MC (PHC 7.6.6(2), 7.7.3 and 7.12.2; but cf. PHC 7.6.6(4)).

It seems probable to me that most of these loanwords from OF and ME did not enter C as learned items (i.e. in writing), but were rather picked up by ear, and not necessarily all through ME. Thus, borrowings from E like /grond/ 'ground' and /hond/ 'hound' may well have come in their early OE forms *grund* and *hund* with short vowels (cf. MEG. §73). In that case they would have short vowels in MC as well, and hence be regular according to the quantity rules set out in §1 above. Loanwords from F also came at different stages of development, so that forms with /a/ < OF /ā/ later existed side by side with forms with /o/ < AN /ō/; cf. the early MC form <chammbour> beside LateC (Lhuyd) <tshombar>.

MC forms with /on/ + dental consonant, where ME has /oun/, are mainly borrowings from OF, where the original has /õn/ (cf. PHC 7.6.6(2b)). It is quite possible that these entered MC directly and not through ME, and that C, unlike E, did not lengthen vowels that were originally nasal in loanwords. C probably only denasalised such vowels.

If these observations are correct, the exception to the vowel quality rules as given in §1 Note 2 is superfluous, and the loanwords were fitted into the system of vowel length in MC quite naturally.

Diphthongs and some related combinations of vowel + semivowel

14. The following diphthongs can be found in Middle Cornish: /ey/, /ay/, /oy/, /iw/, /ew/, /aw/ and /ow/. PrC /uy/ and /oey/ had been monophthongised to /oe/ already before the MC period (cf. §9).

Note. In PSR 12.5, George describes a diphthong /yw/ as part of his new phonological system for RevC, based on the phonology at the time of BM. In fact only two words appear to contain this diphthong (cf. PHC 9.3), and both are not without problems. These words are RevC ('Unified') *bew* 'alive' and *clewes* 'to hear' (both written with <ew> by Nance).⁸ The latter is from Br **kluwét-* (W *clywed*, B *klevet*; cf. LHEB §48(3)) and never appears in MC orthography with <iu>-type orthography. With <ew>-type orthography it does occur 21 times in P, 60 times in ORD, and in one instance in BM. <ow>-type spellings (meaning /ou/?; cf. §18 Note) occur 3 times in ORD (and never when the verb appears without an ending, i.e. as <claw>) and 38 times in BM. *Bew* is from a Common Celtic form **bíwos* and appears in W as *byw* and in B as *bev* (LHEB §46(5)). In MC the orthographic profile of the word *bew* 'alive' is (PHC Tables 322a and 324 combined):

orthography	CE+P	ORD	BM
iu, yv, yw	1 (6%)	11 (13%)	5 (7%)
ew(e), ev	15 (94%)	71 (87%)	71 (93%)

(It is noteworthy that in BM all polysyllabic forms of *bew* – nearly all instances of /*bewnans*/ 'life' – have <ew>, while five out of nine monosyllabic occurrences (including the occurrences of /*yn-few*/ 'alive') show <iu>-type spellings.)

The conclusion seems to be that /*klewes*/ developed parallel with the B form *klevet*, while /*bew(nans)*/ followed the same path slightly later (in the *Tregear Homilies* and *The Creacion of the World* only <ew>-type spellings occur). As we saw in §5 above, /y/ was on its way to merge with /e/ – which did not happen fully until c. 1650. The product of reduction of /iw/ in unstressed final closed syllables is /ew/ (§18), which also suggests that /y/ was not available as the first part of a diphthong (i.e. there was no opposition /iw/ : /yw/, just like there was no opposition /oew/ : /ow/ either).

15. /ey/ sounded like the diphthong in E *day*, *plain*, *great* or *veil*. The phoneme occurs in MC stressed syllables only; unstressed it had been monophthongised to /e/ in OC already. Its orthography shows the following variation (PHC Table 221):

orthography	CE+P	ORD	BM
ei(_e), ey(_e)	14 (88%)	54 (55%)	13 (54%)
yy, yi, y(_e)		8 (8%)	1
i(_e), y(_e)	2 (12%)	35 (35%)	10 (42%)
e(_e)			2

⁸ Purely technical, neither of these words contains of course a diphthong. Certain forms derived from them, however, do (e.g. *bewnans* 'life' and *clewvyth* 'he will hear'). It is because of this constitutional ambivalence why diphthongs and combinations of vowel + semivowel are treated together in this chapter.

In LateC /ey/ merged with the reflex of ME long /i/, becoming /ay/ as a result of the Great Vowel Shift. Concerning this it may be noteworthy that in the *Tregear Homilies* the orthography shows 70% <ei>-type spellings and 23% <i>-type, perhaps indicating that the translator of these homilies still perceived a difference between the reflexes of C /ey/ and E long /i/.

16. /ay/ sounded like the E pronoun *I*, or like the *y* in *by*, *my*. PrC /ay/ had disappeared from MC just before the beginning of the literary period. Stressed or posttonic it had become /e/, pretonic /a/ (cf. PHC 8.2). Henceforth, this phoneme occurs in loanwords from ME only, and probably in the combinations *a'y* 'of his/her' and *ha'y* 'and his/her'. The MC orthography shows <ay> and <ey> indiscriminately (PHC 8.5; PSR 12.2.2 and 12.2.4).

17. /oy/ was a diphthong like the one in E *noise*, *boy*. Its most frequent spelling in MC was <oy>. George takes spellings like <ouy>, <ûy> and <ôy> in LateC as suggesting that the first element of this diphthong may have been long in some words (PHC 8.4.2), but such spellings are not found in MC.

18. /iw/ is the same sound as occurs in W words like *lliw* 'colour', in E the combinations *eaw* in *seaweed* or *ywh* in *pennywhistle* more or less represent this diphthong. When stressed this diphthong appears in open syllables only (an exception is LateC (Lhuyd) *niul* 'fog'). Its orthographic profile is (based on a compilation of the tables in PHC 9.2.2-4):

orthography	CE+P	ORD	BM
yw	76 (75%)	595 (95%)	326 (99%)
ew	21 (20%)	32 (5%)	4 (1%)
u, v	5 (5%)		

In this table, the <u>-type spellings are all from the interrogative pronoun /piw/ 'who', which occurs in P five times as <pu>, <pv>, and one time as <pyw> as it is always written in ORD and BM.

Unstressed finally this phoneme occurs only in the word /hedhiw/ 'today', which appears in writing with the following variations (PHC 9.2.5):

orthography	CE+P	ORD	BM
yw		7	8
ew		1	27
u		1	
ow	1	1	2

The <ew>-spellings might in this case represent the lowering of /i/ which occurred sometimes in final closed syllables (cf. §4).

Note. The <ow> in the above spellings is interpreted by George (PHC 9.2.5) as [ɔw], being a further development of /ew/, but perhaps <u> and <ow> should be taken together and interpreted as the result of monophthongisation to /u/ (see also PHC 8.3.3(3)).

19. /**ew**/ was a diphthong which has no equivalent in E. In W it appears as <ew> in the same words as in C, as e.g. in *llew* ‘lion’ = MC /lew/, *rhew* ‘frost’ = MC /rew/, and *blew* ‘hair’ = MC /blew/. According to PHC 9.5.2, it may have been pronounced with a long and relatively close (cf. §6) first element. When stressed its spelling was <ew>, <eu>. <ev> in by far the most instances. The only exceptions are a few instances of <u> and <ow>-type spellings when the diphthong is followed by a consonant. The variation of these spellings is (PHC Table 333):

orthography	CE+P	ORD	BM
eu, ev, ew, e	40 (93%)	65 (98%)	11 (55%)
u	1		
ou, ov, ow	2	1	9 (45%)

A comparable tendency to write <ow> for <ew> can be seen where the diphthong is unstressed (PHC Table 337a). This ‘change’ can either be interpreted as an orthographic change, as George does (PSR 12.6.3), or as a reduction of the diphthong to its second element (cf. §18 Note). In favour of the former interpretation is George’s remark, in PSR 12.6.1, that ‘the diphthong is found in the dialectal pronunciation of English *cow* in mid- and west Cornwall’ (i.e. [æɔ], [ɛɔ]; cf. Wakelin, *Language and History in Cornwall*, p.148). On the other hand, the fact that /ow/ is never found with <ew>-type orthography makes it unlikely that the two diphthongs were confused. Hence, the latter interpretation of <u>, <ow>, etc. as /ou/ seems more likely here. This solution becomes all the more attractive when it is remembered that in ME the diphthong *eu* (< OE *ēow*) had in some words a variant form *ow* (< OE *eów* < *éow*, by absorption of the first element; cf. MEG. §112 Note 2), and that the normal development of this ME diphthong was to MnE [ju]; cf. words like *new*, *dew*, etc. This change in E took place during the 16th century.

20. /**aw**/ sounded like *ow* in E *how*, *now*. In MC orthography this diphthong was represented almost exclusively by spellings like <au>, <av>, <aw>, or – in stressed open monosyllables – sometimes <awe> or <aaw> (PHC Tables 341-342).

In final unstressed syllables in polysyllables, and in stressed closed monosyllables this diphthong (still written <au>, <aw> in VC) appears as /ow/ in MC. Its orthography in this case is <ou>, <ov>, <ow> in most instances. In BM 25 instances (out of a total of 56) show length through an additional ‘mute’ <e>, and in ORD four (out of 77) instances are spelled with <au>, the rest with <ou>, <ow> (PHC Table 341). Similar changes, often resulting in a monophthong /o/, took place in the languages surrounding Middle Cornish during the 16th century (cf. B, HPB §§357-361; F, Pope §§534-536; E, MEG §84). At least for French there are indications that this development was already taking place in the spoken language in the late 13th century.

When stressed in polysyllables /aw/ remained stable in MC (PHC 9.6.4).

21. /ow/ sounded like *ow* in E *low, grow*. A problem with this diphthong is that its orthographic representatives (<ow>, <ov>, <ou>, etc.) may also mean /ou/, while under certain conditions /ow/ did at one time develop into /ou/. As a result, the date of this change remains in the dark.⁹

In three instances in P this phoneme is written <owy>: <yn growys> ‘on the cross’ P.2d, <towyll> ‘tool’ P.156d and <hal|y bowys> ‘and his coat’ P.161b.

When unstressed, the diphthong remained stable during the MC period and was nearly exclusively written <ow> in all texts except BM, which shows a preference for <ov> (169 instances (= 94%), as opposed to only 11 instances of <ow>; cf. PHC Table 357a).

Semivowels

22. Two semivowel phonemes occur in Middle Cornish: /y/ and /w/.

23. /y/ agrees with E *y* in *yes, yet*. In various words where one would expect this phoneme in initial position it was not written, and – as shown by the occasional accretion of <h-> (or <n-> as occurs in the *Tregear Homilies*) – probably not spoken either. This dropping of initial /y/ is very regular in P, whereas it is extremely rare in the other texts, so perhaps we have a dialect phenomenon before us here. The orthographic profile of /y/ in absolute initial position is (PHC Table 410):

orthography	CE+P	ORD	BM
y, 3 ¹⁰ , i	2	74 (97%)	57 (98%)
∅	45 (94%)		1
h		1	1
z ¹¹			1

Following a dental consonant (i.e. /t/, /d/, /s/) a general tendency of the cluster to develop into a voiced or voiceless (dependant on the dental) sibilant can be seen in such forms as MC <nyge> ‘to fly’, with the stem <nyg> (cf. *W neidio*), phonemically /nyj(e)/. Occurrences of such groups are too rare to base conclusions on their

⁹ According to PHC 9.7.5 this change took place only to the reflex of PrC /ow/ when stressed before a vowel, i.e. when /ow/ is not a diphthong at all. It might be better to explain the instances mentioned by George as examples of the LateC change /oe/ > /ou/; cf. §9 above.

¹⁰ <3> is used here to represent the grapheme called ‘yogh’ and used in OE and ME to represent the velar and palatal spirants. It originated from the insular minuscule grapheme for *g*. Circa 1300 this ‘yogh’ was in ME generally replaced by <y-> or <-gh-> and it is surprising to see that in MC it became actually more frequent after it was being replaced in ME. As a representative of /y/, it is absent in P, occurs only six times in ORD, and 38 times in BM. The grapheme was also used in MC to represent the alveolar fricatives /th/ and /dh/ (for which it was never used in English!).

¹¹ In ME <z> could in certain cases be an allograph of <3>, so that we might have to include the single instance of <z> in ORD with the <y>-type spellings as well.

orthography. Spellings representing such groups can be tabulated as follows (cf.PHC 12.1.3-4):

s + cy	c + ci	t + i	d + y	g + y
(h)i	i	y		
(h)y	y			
s				
si				
sy				
(s)c				
shy				

If we take the orthography of ME as a guide, all spellings with <s-> or <c-> might be interpreted as meaning [ʃ], those with <d-> or <g-> as [ʒ], and those with <t-> as plain [tj]. Phonemically, these groups are all to be taken to represent /ch/ and /j/ respectively (cf. HMB §24(1) Note 1 for a similar development in Breton).

24./w/ sounded like w in E way, water. Since in C, as in all Brittonic languages, initial /w/ developed into /gw-/, this phoneme occurs only rarely in initial position. It does so in certain words which became generally used in their lenited form (cf. §52) and in some loanwords with initial /w/. As with /y/, initial /w/ could be dropped arbitrarily, as e.g. in the preposition /worth/ 'at', of which the orthographic profile is (PHC Table 430):

orthography	CE+P	ORD	BM
w-	46 (74%)	84 (62%)	49 (67%)
∅-	16 (26%)	51 (38%)	24 (33%)

Since in later Cornish sometimes the numeral /onan/ 'one' is found with an initial <w> (never in MC, and only once in *The Creacion of the World*, l. 390) and a tendency to drop initial /w/ before rounded vowels can be seen, it is likely that the scribes had some difficulty in deciding whether the rounding they perceived was something independent, or was part of the vowel which followed.

When final, /w/ remained consonantal and developed into /v/ (PHC 9.2.2(3)).

Consonants

25. The consonant system of Middle Cornish may be tabulated as follows:

	plosive		affricate		fricative		nasal			
liquid										
labial	p	b			f	v	mm	m		
alveolar	t	d			th	dh	nn	n	ll ^b	l
					s				rr ^b	r
palato-alveolar	ch ^a	j ^a	tj	dj	sh					
velar	k	g			gh	h				

^a In loanwords only.

^b Possibly voiceless counterparts of /l/ and /r/.

Note. In PSR, George gives a full set with both single and geminate phonemes for all consonants as the MC base for his new orthography for RevC. Most of his geminate consonants, however, appear in very limited morphological classes only (subjunctive verbal forms and comparative adjectives) or are not attested with any certainty in the MC material at all. Furthermore, there is no need to suppose an extra opposition single : geminate, as it is perfectly possible to describe the whole system in terms of voiced : voiceless (see also the rules for vowel-length given above, in §1). The only consonants for which the existence of geminates is clear and free from morphological restrictions are the resonants. (For a table of George's system, see PHC 19.3.3 or PSR 5.9.)

26. /p/ was written <p> and occurred in native C words initially only. In loanwords it could appear between vowels or word-finally also (PSR 14.2). Internally – where George would interpret /pp/ (cf. §25 Note) – /p/ arose principally as the result of protraction of PrC /b/ in subjunctives and in comparatives, and of PrC /b-p/ in compounds. Apart from this, /p/ could occur internally or word-finally in loanwords, where the preceding vowel is short. Its spelling in MC was mainly <pp> (PSR 14.3).

27. /b/ could occur in all positions and was mostly written . Only in word-final position, where most probably the opposition between voiced and voiceless consonants did not apply (or was governed by rules of sandhi), <p> may also be found (PSR 15.2).¹²

Note. In PSR 15.3 George suggests /bb/ as a marginal phoneme occurring only in the loanword *robbya* (US) 'to plunder, to rob'. The only actual occurrence of this word is once in BM.2064 in the form <robijs>, i.e. /robys/ 'robbed' (verbal adjective; to be read as [robys]). There is however no reason to suppose /bb/ here because the first vowel would also be short if the phonemic form of the verb is taken as /robye/, as the spelling in BM would suggest. (For the (voiced) geminate occlusives in general see also PHC 13.5., and see §25 Note above.)

¹² In W all word-final consonants are unvoiced, in B they are either voiced or unvoiced, depending on the initial sound of the following word. For MC the evidence is not conclusive. For RevC, George (PSR 5.12) gives a set of sandhi-rules which appear to be based mainly on Breton. For the MC evidence (as far as it goes) see PHC 11.7 and 13.4.2; the basic rule seems to be that all word-final consonants were unvoiced, except when followed by a word beginning with a vowel.

28. /t/ was an alveolar [t] like the one in E *tea, later, beet*. It could not occur word-finally in native words, where it had become /s/, nor internally when the following vowel was not followed by an alveolar consonant (cf. §47 Note; in loanwords adopted after this change had taken place /t/ may occur in all positions). Only in loanwords /t/ could occur between vowels, where Br *t had been lenited to *d. The orthography was usually <t> (PSR 14.4).

Intervocalic /t/ – interpreted by George as /tt/ (cf. §25 Note) – was mainly the result of protraction, just like intervocalic /p/ (George’s /pp/). Furthermore the phoneme appeared in loanwords, where it may also be word-final. Its most frequent spelling was <tt> (PSR 14.6).

29. /d/ was the voiced counterpart of /t/. Just like /t/ it can not occur word-finally in native words, where it had become /s/, nor internally when the following vowel was not followed by an alveolar consonant (cf. §47 Note. In loanwords adopted after this change had taken place /d/ may occur in all positions). The orthography was normally <d>, but <t> and <dt> do occur word-finally (PSR 15.4).

Note. Just like /bb/ (cf. §27 Note), a phoneme /dd/ cannot occur in native words in MC. The earliest occurrences of this geminate can be seen in the *Tregear Homilies* (PSR 15.6).

30. /k/ appeared, like the other voiceless stops in native words, in initial position only. In loanwords it could appear intervocally and word-finally as well. It was generally spelled <c> before back vowels (i.e. <a>, <o>, <u>) and before /l/ and /r/. Otherwise its orthography was <k>. There are however numerous exceptions to this rule, where e.g. <k> is used before <a> (PSR 14.7). Through protraction, mainly of stem-final /g/ in subjunctives and comparatives, /g/ would be unvoiced to /k/ – interpreted by George as /kk/ (cf. §25 Note). In loanwords, this phoneme appears as <k>, <ck> or <kk> (PSR 14.8).

31. /g/ represents the sound of E *gap, tiger* (and never the sound it has in E *gentle*). It may occur in all positions. By analogy to MC /gw-/ < PrC /ww-/ it is also often ‘prefixed’ to E loanwords beginning with /w-/. It was mainly written <g> initially and medially, and <k> finally. (PSR 15.7).

Note. Here also, George (PSR 15.8) suggests a phoneme /gg/ which he, like /bb/ above (§27 Note), takes as a loan-phoneme occurring in very rare occasions only. The only examples he quotes are *shagga* (US) ‘shag, crested cormorant’, which I could not locate in any of the MC texts, and *jag* (US), translated by George as ‘jag’ and identified by him as a re-spelled form of MC <iag>. This is a rather problematic form however. It appears only once, in D.2817, in the expression <iag a’n pla>, translated by Norris as ‘a cure of the plague’ (i.e. /yagh/; cf. B yac’haat, W iachâd) which may be taken as a cynical remark made by one of the executioners while raising the cross into its upright position. Sandercock, in his edition of D in Unified Spelling (based on the work by Nance and Smith), gives *jag an pla* and translates ‘the devil’s own jog’, taking *jag* as a borrowing from E. The word *pla* in this expression is a borrowing from Latin *plaga*; it occurs in W as *pla* also. It occurs four times in D, always as a noun meaning ‘evil’, which is not very helpful for the interpretation of <iag>.

32. /tj/ is a phoneme peculiar to MC, not found in Breton or Welsh. It is the result of a development which took place in the intervocalic groups /nt/ and /lt/ when the following vowel was not followed by a nasal or a liquid (which is a very strange rule indeed). The only exception to this rule is the word /tji/ ‘house’ (probably through generalisation of the form it took in the phrase /yn-tji/ ‘in the house, at home’).

The great variety of spellings used for this sound (mainly <s> and <g>) shows that the scribes did not know how to write this it. The word /tji/ 'house' was regularly spelled <chy> in ORD and BM. In Pascon agan Arluth this word occurs only once in the phrase <yn chy> (P.159a), in the *Charter Endorsement* the word appears as <ty> in the expression <gwreg ty da> 'good housewife' in line 13. The implication of this seems to be that the change /ti/ > /tji/ became phonemic later than the change /-lt/, /-nt/ > /-ls/, /-ns/, which is dated to c. 1075 by George and which is related to the change that gave rise to the phonemes discussed here (PHC 13.2.7(d)).¹³

The exact nature of the sound of /tj/ is hard to establish; George interprets it as a palatalised /t/: [t'] (he uses τ as a symbol for it; cf. PHC 13.2.3, 13.2.7 and PSR 14.5). The orthographic profile of this phoneme when following /n/ in an intervocalic group is (PHC Table 442b):

orthography	CE+P	ORD	BM
s	58 (97%)	97 (85%)	87 (100%)
g, j, gh		16 (14%)	
ss, 3		2	1

In LateC the orthography of this phoneme does not differ much from the MC situation, except for the fact that Lhuyd spelled <dz> in most instances (32 out of a total of 42, i.e. 78%; he also spelled <zh> four, and <z> three times, his remaining two instances having <s>; PHC Table 442b). (Cf. §47 Note.)

33. /dj/ is the voiced counterpart of /tj/ and hence, according to George, a palatalised /d/: [d'] (denoted by δ in George's work; cf. PHC 13.2.2-3, 13.2.7 and PSR 15.5). It was the MC result of intervocal /d/ and of /d/ in intervocal groups /nd/ and /ld/ provided (in both cases) the following vowel was not followed by a nasal or liquid, or sometimes /w/. In the MC orthography this phoneme was not distinguished from /tj/ and also represented mainly by <s> and <g>. The orthographic profile of intervocalic /dj/ is (PHC Table 432):

orthography	CE+P	ORD	BM
s	85 (91%)	160 (58%)	321 (94%)
ss, 3	6	13	4
g, i, y	2	102 (37%)	16
th			1

(It might have been better to group <ss> with <s>, and <3> with <th>, in this table, but I do not think this would have changed the general statistics much.)

¹³ After considering the place-name evidence it seems more probably that this change should be dated c. 1275 (George, personal communication).

When following /n/ or /l/ in an intervocalic group <g>- type spellings are much more frequent, as can be illustrated with the orthographic profile of /ndj/ (PHC Table 442a):

orthography	CE+P	ORD	BM
s	1	3	16 (47%)
g, i, j	22	54	18 (53%)

In this case also the most frequent LateC spelling is <dzh>.

Note. (a) The interpretations of the changes affecting PrC /t/ and /d/ are various and often incompatible. Jackson (LHEB §§52(1), 54(1) and §110) considers that the changes started with /-lt/, /-nt/ > /-ls/, /-ns/ with later the same development analogically in internal position. This change is dated by him in the second half of the eleventh century. Then, c. 1100 (and still according to Jackson), assibilation took place of intervocalic and final /d/, of intervocal /dw/ and occasionally of word-initial /t/ when followed by a front vowel. George (PHC 13.2.2-8) suggests that the change in the groups /lt/ and /nt/ – called palatalisation by him – started in intervocal position, also over the word-boundary. Hence the ‘palatalisation’ of such groups in word-final position did not become phonemic until after such units as /nantj avalow/ (place-name, ‘valley of apples’) were separated without restoring the original /-nt/. Later, c. 1275, these ‘palatals’ in word-final position fell together with the reflex of PrC /s/ (cf. PHC 13.2.7(d)) so that we find /nans/ in our MC texts.

The principal difference as far as we are concerned here, is that Jackson (and all others who discussed these phenomenon) would interpret this word as /nans/ ‘valley’ every time we find it spelled like that, whereas George suggests a stage in which a form /nantj/ existed (this is also the development as analysed by Lewis and Pedersen (L&P §263; but cf. the note in their Supplement, p.8, where Jackson’s idea is given as an alternative). The next step is that George equals Jackson’s ‘assibilation’ with his ‘palatalisation’. The main difference here is that Jackson has different developments for /t/ when following /l/ or /n/ and for intervocalic and final /d/ and intervocalic /dw/, whereas George assumes only one development to explain both changes and names it ‘palatalisation’. (See also the article by Loth, RC.18.401-422, where most of the relevant material is given.)

(b) For a better understanding of these developments it may be well to take a look at their phonetic reality. All phonemes concerned (i.e. /l/, /r/, /n/, /t/, /d/ and /s/) are articulated with the tip or blade of the tongue against the alveolar ridge immediately behind the upper teeth. Apart from labial consonants, in which the tongue does not take part in the articulation, there are no consonants articulated further front in MC. When now a number of such alveolar consonants are following one another within a phrase the tongue will not or hardly move from its alveolar position and all the consonants will come out neatly (an intermediate vowel does not affect this; vowels are articulated over the surface of the tongue quite independently of consonants). This explains why /t/ and /d/ are not affected when the following vowel is followed by another alveolar consonant. If on the other hand no such consonant is following the tongue will tend to leave its alveolar position to move into a more neutral position or, when a velar consonant follows, into a velar position. Especially when a /t/ or /d/ were last pronounced in such a sequence, this is likely to result in a more lax articulation so that the stream of air is not fully blocked any more and the phonemes become assibilated (i.e. [t], [d] > [ts], [dz]). The next step would be for them to become full sibilants (i.e. [s], [z]). Especially when the resulting sound is not word-final, the movement of the tongue will be back as well as down - and especially so when a front vowel is following - and this would result in a contingent palatalisation of the resulting sound (i.e. [ts], [dz] > [tsʰ], [dzʰ]).

By the same reasoning it is understandable how such developments as e.g. intervocal /dj/ > /r/ in two groups of words (c. 1625; cf. PHC 13.2.5) and the change of initial /n/ into /l/ in some place-names (e.g. Lanteglos < *Nant Eglos; cf. PHC 17.2.5) could take place. Each of these changes can be described as the change of just one feature in the whole bundle of features by which each phoneme is defined.

34. /f/ was a labiodental spirant like *E f* in *fat*. Its spelling in MC was normally <f>, but some rare instances with <v> instead of <f>-type spellings seem to indicate occasional (sub-phonemic) voicing. The statistics for word-initial /f/ are (PHC Table 581):

orthography	CE+P	ORD	BM
f	113 (98%)	507 (99%)	258 (99%)
ff		2	
v	2	3	2
p			1

A general voicing of initial /f/ to /v/ did not take place in C until *c.* 1575 (PHC 15.2.2(4.b)).

Medially, intervocalic /f/ was relatively rare, the existing examples do not, however, seem to indicate voicing. On the basis of place-names George dates the full voicing of intervocal /f/ to /v/ to *c.* 1575. In MC this phoneme is thought by George to have been half-voiced in voiced surroundings (i.e. when preceded and/or followed by a vowel or a resonant, either within one word or in sandhi-position; cf. PHC 15.2.4 and PSR 16.1.1).

Internal /f/ resulting from provection, and interpreted by George as /ff/ (cf. §25 Note), was always voiceless (and just that; there is no need to introduce a geminate here). Its orthographic profile in subjunctive verb forms and superlative adjectives is (PHC Table 592):

orthography	CE+P	ORD	BM
ff	13	49 (94%)	18 (72%)
f		2 (4%)	7 (28%)
v		1	

In some other instances where /f/ resulted from provection there was a tendency for it to be voiced. Three clear examples of this are the words /kefrys/ ‘also’, /nefre/ ‘never’ and /defri/ ‘certainly’). The orthography of these words shows the following variation (PHC Table 596; to make this tendency clear the numbers for the later texts are given as well):

orthography	P	ORD	BM	Treg.	Creac.	LateC
ffr	18	119	10	45	33	
fr		60	88		34	1
vr			2	1		3
ver				1	10	4

35. /v/ was a voiced labiodental spirant like E *v* in words like *vowel*, *grave*. The orthography of intervocalic /v/ shows the following variation (PHC Tables 552, 562 and 572):

orthography	CE+P	ORD	BM
u, v	183 (80%)	533 (79%)	166 (59%)
w		1	3
f	38 (17%)	125 (19%)	69 (25%)
ff	7	12	43 (15%)
b			2
\bar{v}			1

(Of these spellings, and < \bar{v} > occur in loanwords only.)

The fact that <f> occurs in a significant number of instances is tentatively taken by George as an indication that intervocal /v/ may sometimes have been partially unvoiced (see also HPB §872), though he admits that <f> might also just be an allograph for <v> (as it is e.g. also in MW) (PHC 15.1.4). To me, this latter solution seems the most probable one. A real change of intervocal /v/ > /f/ can be seen only in the words /skrive/ 'to write' (and its conjugated forms) and /nifer/ 'number' (and its compounds). Both these words – derived from Latin *scribere* and *numerus* respectively – would be expected to have /v/ etymologically (PHC 15.1.4(a) and PSR 16.1.2).

Postvocal in stressed monosyllables the spelling was generally <f> or <ff> in P, <f> in ORD and <ff> in BM (PHC 15.1.5 and Table 574). Word-finally in polysyllables (and following a vowel) the orthography was (PHC Table 565):

orthography	CE+P	ORD	BM
f	3 (5%)	377 (80%)	8
ff	29 (59%)		69 (29%)
Ø ¹⁴	17 (35%)	96 (20%)	159 (67%)

(In this table verbal nouns and superlatives were not included by George; verbal nouns with Br *-am- or *-im- ended in /-e/ in MC, while the MC superlative ending had regularly developed into /-a/. The 1sg. pr. ind. verbal ending (/ -av/ during most of the MC period) is included in the Table.)

36. /th/ sounded like the voiceless dental spirant which occurs also in E words like *thin*, *author*, *breath*. Its orthography in MC was mainly <th> or <3>, with <th> being the most

¹⁴ Cf. HPB p.677 (footnote 7) where Jackson speaks of 'a sporadic tendency apparently endemic in all the Brittonic languages (...) to drop the final voiced spirants at a very early stage'; see also LHEB §§66 and 69 and HPB §878, as well as the further remarks on the C voiced spirants in the present work.

frequent by far. The orthographic profile intervocally and word-finally after vowels is (PHC Tables 632, 634 and 635):

orthography	CE+P	ORD	BM
th	49 (70%)	376 (98%)	180 (95%)
3	21 (30%)		
t		5	9 (5%)
s		1	
∅			1

Intervocalic /th/ (taken by George as /thth/; cf. §25 Note) occurs in subjunctive verb forms and compared adjectives as the result of provection. Its occurrence is rare and in the MC orthography it is not normally distinguished from /th/, though just one instance of <thth> does actually occur in D. 2652 (PHC 16.6; PSR 16.5.5). Its interpretation runs parallel to the interpretation of George's /ff/ (cf. §32 above).

When intervocally or when word-finally closing a stressed syllable, /rth/ could be reduced to /rr/ (PHC 16.2.4). Only one example of the former, and three examples of the latter, occur in MC, all in ORD (PHC Tables 642 and 644). In LateC this reduction became more frequent.

37. /dh/ is the voiced counterpart of /th/, occurring in E in e.g. *thither*. This phoneme appears word-initially in the possessive pronoun /dhe/ 'your' and in the prepositions /dhe/ 'to' and /dhyworth/ 'from' (cf. *W oddi wrth*) where the lenited forms became petrified. In MC, as in MnE, this phoneme was not orthographically distinguished from /th/; it was spelled either <th> or <3>. A – statistical – exception to this can be seen in P, where in nearly all instances of /dh/ the orthography is <3>, while 70% of the instances of /th/ are represented by <th>. The statistics are (PHC Table 612):

orthography	CE+P	ORD	BM
th	11 (6%)	471	207 (97%)
3	161 (94%)		6

Postvocally, word-final /dh/ was lost in some words before the period of MC literature. In cases where the sound had not disappeared it remained stable throughout the MC period (PHC 16.1.4). This eventual loss took place in polysyllables only. The orthographic profile for word-final /dh/ is (PHC Tables 614-615):

orthography	CE+P	ORD	BM
th	137 (96%)	762 (97%)	297 (98%)
3	5		
t		12	1
d		11	4
∅		2	2

The preverbal particle /ydh/ was written by Lhuyd with <th>, which in his orthography represents the voiceless variant /th/ only. Since in its MC spellings it cannot be seen whether the consonant in this particle was voiced or not, this change cannot be dated. The older form /ydh/ will be assumed here (cf. PHC 16.1.7).

38. /s/ sounded like *s* in E *sit*, or – when preceded and or followed by voiced phonemes (also in sandhi-position) – like *z* in E *zebra*. According to PSR 17.1.1(b) this latter allophone is not voiced but half-voiced and hence ‘a sound half-way between [s] and [z]’. Without a native speaker this is hard to decide however. See also PHC 14.1.6 and the description of /ss/, below.

Since the grapheme <z> in MC (just as in ME and OF) could mean [ts] only, this was never used to represent /s/. The most frequent spelling in MC was <s> in almost all instances. In ORD 13 instances (13% of the total number of occurrences of intervocal /s/ in ORD) are spelled with <ss> (PHC Tables 511 and 512a-b). Word-final /s/ after a vowel in stressed monosyllables is spelled once <3>, once <st>, and once <th> in P (cf. PHC Table 514).¹⁵

George’s /ss/ (cf. §25 Note) was the same sound as /s/, but longer in duration (PSR 17.2.1). It arose just like the other ‘long’ consonants from protraction in the subjunctive verb forms and in comparative forms of adjectives. Another source for this phoneme was intervocalic ME /s/ in loanwords (PHC 14.2 and PSR 17.2.2). In contrast with /s/, where the orthography was mostly <s>, the spelling <ss> prevails for this /ss/, which George takes as a separate phoneme. George thinks that when internal /s/ became fully voiced (c. 1575, or even earlier?) long /ss/ was reduced to [s] (PHC 14.2.3). But since there was no grapheme in MC, (nor in ME or OF, to represent [z]) it is impossible to be certain about the exact quality of MC <s> and <ss>. It may well be that

¹⁵ No explanation for these odd spellings is offered by George. The instance of <-3> occurs in the Charter Endorsement, line 16 in the word <crey3> (*eres* in UC; i.e. /kres/ ‘faith’) which is of course from older **kred*; cf. MB *cret*, W *cred* < Br **kredde*- (LHEB §70 and L&P §45). The form <crey3> might perhaps be an archaism representing an intermediate stage between OC **kred* and MC /kres/ (cf. §33 Note, and see also PHC 14.6).

The form in <-st> may be easier explained as a scribal error. It occurs in P.162b in the phrase <a vest 3en dre y 3ese> (US *a ves dhe’n dre yth esa*, ‘outside the town it was’; cf. Brown, *A Grammar of Modern Cornish*, §137). Presumably the scribe anticipated the following sound, where he had the choice of writing either <3> or <th>, and he did not correct his error afterwards.

The <th> spelling occurs in <grayth> ‘grace’ in P.222d (and perhaps also in <denseth> ‘humanity’ P.223b, if that is the same word as <densys> ‘manhood’ P.10d). The normal spelling for this word in P is <gras> and there is no apparent reason for this deviant orthography here. In his private copy of his edition of P – kept in the library of University College London – Stokes noted also <anfueth> ‘misfortune’ (cf. W *anffawd*) in P.225d, which is written <anfus> in D.1501.

<s> for /th/ occurs in <mes> ‘shame’ CE.23. See also PHC 14.6.

in voiced surroundings <s> was used to represent [z], and <ss> for [s], and that there was no difference in length at all. (For similar thoughts about George's /ff/ and /thth/, cf. §§32 and 34.)

The orthographic profile, for native words and loanwords together, is (PHC Tables 522a-b):

orthography	CE+P	ORD	BM
s	3 (17%)	6 (7%)	18 (21%)
ss	14 (78%)	74 (88%)	61 (73%)
sc		1	
c	1 (5%)	3	5 (6%)

(Of these spellings, <sc> and <c> occur only in loanwords before front vowels, while <s> does not appear in loanwords in P and ORD.)

39. /**sh**/ sounds like its orthographic equivalent in E *shop*. It occurred in MC in loanwords and as the result of assimilation in /sy/ (cf. §23; PHC 14.4.1). In the latter case we are dealing with (loan)words which in their earliest form had the Latin endings *-ssionem* and *-tionem*. The orthography of this phoneme is extremely varied (cf. §23) while occurrences are rather rare (the most important examples, with an analysis of their orthography, are given by George in PHC Table 418).

40. /**gh**/ was a velar spirant sounding like *ch* in Scottish *loch* or in German *Bach*, the phoneme occurs also in W and B; in MnB it has the distinctive spelling <c'h>. Intervocalic when the preceding vowel was stressed, and in the intervocalic groups /lgh/ and /rgh/, the friction with which this phoneme was pronounced was much reduced c. 1425, and it became more like the *h* in E *aha* (PHC 16.4.3(1) and (3); PHC 16.4.5; PSR 16.7.1).

The orthography of this phoneme was <gh>, or (when reduced) <h>. When this variant was preceded by /y/ or /i/ it could even be omitted in writing completely (PHC 16.4.3.(2); PSR 16.7.4). The orthographic profile of the intervocalic variants is shown in the following table (except when preceded by stressed /y/ or /i/. Not included in this table are one instance of <c> in ORD and three instances of respectively <∅>, <g, k> and <th> in BM. PHC Tables 652a and 653):

orthography	CE+P	ORD	BM
gh	17 (50%)	75 (49%)	
h	17 (50%)	76 (50%)	99 (97%)

When preceded by stressed /y/ and /i/ (PHC Table 652b):

orthography	CE+P	ORD	BM
gh	18	5 (7%)	
h		35 (49%)	6 (20%)
∅		32 (44%)	24 (80%)

The orthographic variation of the groups /rgh/ and /lgh/ was not very different from the intervocalic orthography given in the first table in this paragraph, with the exception of the fact that in these groups the loss of /gh/ is more frequently represented. The orthographic profile is (PHC Table 622):¹⁶

orthography	CE+P	ORD	BM
gh	9 (28%)	88 (56%)	
g			1
h	12 (38%)	57 (37%)	39 (81%)
∅	11 (34%)	10 (6%)	6 (13%)

Word-finally, when preceded by a vowel the phoneme /gh/ remained stable throughout the MC period (PHC 16.4.4). The same holds true for final /lgh/ and /rgh/, which tended to be confused with /lth/ and /rth/ after *c.* 1525 (PHC 16.4.6). A special development was the loss of /gh/ in the word /myghtern/ 'king' and its compounds, which took place *c.* 1475 (PHC 16.4.7(1) and Table 672).

The /gh/ resulting from provection in subjunctives and comparative adjectives (cf. §25 Note) was interpreted by George as a geminate phoneme /ghgh/; the only spelling used for it was <gh> (PHC 16.6; PSR 16.8.4). Its only difference from other /gh/ was that it was not reduced in voiced surroundings.

41. /h/ occurred only word-initially and sounded like E *h* in *hat*. Its spelling in MC was <h>. It is to be noted that the group /hw/ (< Br *sw) was normally written <wh>, which was also the normal ME spelling for OE hw. The orthography of this group is (PHC Table 691):

orthography	CE+P	ORD	BM
wh	45 (63%)	334 (97%)	47 (31%)
w, u, v	26 (37%)	10	104 (69%)

From this table, George concludes that the pronunciation of this group remained [hw], and did not change to [xw] as happened in (North-)Welsh and Breton. It is, however,

¹⁶ According to the 'totals' given for this column in George's Table 662 there are 3 instances missing in it, which explains the fact that the sum of the percentages given does not make up 100%. The 3 missing instances will probably have had <gh>.

also possible that in early MC the pronunciation was [xw], and that the orthography was borrowed from OE, where this sound was written <hw>. In ME, and so perhaps in MC also, this sound changed from [hw] into [ɰ], a rounded, bilabial voiceless spirant (> MnE [ɰ], written <wh>; cf. MEG. §303). Edward Lhuys's spellings all indicate [hw], and since there is no way of telling whether the sound really ever was [xw] George's phonemic spelling /hw/ will be used here (cf. PHC 16.5.4(2); PSR 16.9.5).¹⁷

Word-initial /h/ remained stable except for the fact that – in the orthography – it was sometimes dropped in /ha(g)/ 'and', /hemma/ 'this' and /henna/ 'that' (PHC 16.5.4(1)).

42. /m/ occurs word-initially only in native C words. In all other positions it had been lenited early (PHC 17.1; LHEB §94-101). It was however reintroduced as a phoneme in loanwords with /m/ when preceded by a long vowel (PHC 17.4.2 and 17.4.4; for loanwords with short stressed vowels, see §41). The most frequent examples are /Rom/ 'Rome', /sham/ 'shame' and /blam/ 'blame'.

43. /mm/ was differentiated in the orthography only in intervocalic position when preceded by a stressed vowel, in which case the spelling was <mm>. In all other instances (except word-finally in stressed monosyllables) the geminate was most probably reduced to /m/, written mostly <m> (PHC 17.3.1). The orthographic profile for intervocalic /mm/ is (PHC Table 742):

orthography	CE+P	ORD	BM
mm, nm ¹⁸	62 (85%)	458 (80%)	149 (32%)
m	11 (15%)	112 (20%)	278 (60%)
lm ¹⁹			35 (8%)

Circa 1575 /mm/ changed into /bm/ while /m/ remained unchanged, indicating that when preceded by a stressed vowel /m/ and /mm/ remained separate during the MC period.

44. /n/ had an apical articulation, which explains its change into /l/ in a number of place-names (cf. PHC 17.2.5, and §47 Note (b) below). It was spelled <n> throughout the MC period, with a few exceptions of <nn> in intervocalic position (cf. PHC 17.2.1 and Table 712).

¹⁷ For the development of this sound in English see Alan Bliss, 'The history of English "wh"' in: E.G. Stanley & Douglas Gray (eds), *Five Hundred Years of Words and Sounds; A Festschrift for Eric Dobson* (Cambridge 1983) 11-20.

¹⁸ <nm> is probably a scribal error for <mm>, it occurs once in P and in ten instances in ORD.

¹⁹ <lm> occurs only in the demonstrative pronouns /hemma/, /homma/ 'this (one)' (m., f.). Remarkably, in BM these pronouns appear with <lm> only. In the Tregear Homilies 11 instances occur with <lm>, besides 63 with <mm>, while in The Creacion of the World only 2 instances have <lm>, whereas 16 have <mm> and 4 more have <nm>. A reason for this regular deviation in BM seems hard to give, perhaps the term dialect might be used here. George, in his Table 742 gives only 35 instances of <lm> for BM because he only analysed the commonest words containing /mm/.

45. /nn/ was written <nn> just like /mm/, only when intervocalic and preceded by a stressed vowel. Very rarely <nn> was also written in word-final position. In other positions /nn/ was probably reduced to /n/ (cf. PHC 17.3 and Table 724).

In LateC, the change /nn/ > /dn/ (and also /mm/ > /bm/) took place. In BM three examples of this change occur on the first ten pages, which are in a different hand and believed to be copied later than 1504. All these <dn> spellings are found in the word /bennath/ ‘blessing’ (BM.198, 224 and 225, all three spelled <bedneth>; cf. PHC 17.3.2).²⁰

46. /ch/ represents the sound of the initial in E *church*. It is a loan-phoneme in MC appearing mainly in loanwords from F. Its orthography is <ch> in all cases (PHC 14.5.2 and PSR 17.4.4).

47. /j/ is the voiced counterpart of /ch/ and sounded like the E *g* in *gin*. In native C words this phoneme could occur only after c. 1625, when /dj/ (§33) regularly developed into /j/. In MC it occurred in loanwords only. The orthography of this phoneme in MC was as complex as it was in ME: <g> initially and medially before front vowels (i.e. <e>, <i>, <y>) and word-finally, <i> or <j> in the same positions before back vowels (i.e. <a>, <o> <u>); medially <gg> was the normal spelling in ORD (PHC 14.5.2 and PSR 17.5.4).

48. /l/ was an apical, alveolar consonant (cf. PSR 18.6.1). It was almost exclusively spelled <l> in MC, with the exception of word-final /l/ after an unstressed vowel in P, where we find eight instances (38%) with <l> and thirteen (62%) with <ll> (in BM six instances (only 7%) of this variant with <ll> appear; cf. PHC Tables 752 and 755).

49. /ll/ probably had the same sound as /l/, but longer in duration.²¹ It is reduced to /l/ in word-final or intervocalic position or when preceding a stressed vowel. Whether there was a difference between word-initial /l/ and /ll/ cannot be deduced from the orthography, which was <l> in both cases (PHC 18.2.2; PSR 18.7.1). The orthography of intervocalic /ll/ is almost always <ll> (PHC Tables 762 and 772). Word-finally, the orthographic profile is (PHC Table 765):

orthography	CE+P	ORD	BM
ll	15 (94%)	1	6 (20%)
l	1 (6%)	58 (98%)	24 (80%)

²⁰ It is interesting to note that in another Celtic language, but not a close relative of Cornish, a comparable development took place. In Manx preocclusion of nasal or lateral consonants after a stressed vowel took place at an uncertain date and resulted, as it did in LateC, in an extra syllable. Cf. Broderick, *A Handbook of Late Spoken Manx*. Vol.3. Phonology (Tübingen 1986), §§33-34.

²¹ There are some indications that at one time this phoneme may have been unvoiced like W *ll*. George (PHC 18.2.3) lists these as follows: (a) the loanword /ellas/ ‘alas’ is found as <ethlays> once (Creation, l.1038); (b) and (c) in some LateC words sometimes <lh> is written for MC /ll/ (once by Lhuyd). To this can be added that Lhuyd thought C had had this sound ‘not many ages since’ (his evidence is scanty though; cf. Lhuyd, *Archæologia Britannica*, p.228). Another indication for this might be the change /lly/ > /lky/ in the word /dellyow/, which became /delkyow/ in LateC (cf. PHC 12.1.5). A similar development /sl/ > /skl/ in ME was imputed to the *Explosivgeräusch* of a voiceless /l/ (cf. Jordan, §209 Anm.1, who refers to Braune, *Althochdeutsche Grammatik*, §169 Anm. 3).

50. /**r**/ was, like /l/, an apical, alveolar consonant with a clear roll comparable to the *r* as pronounced by Scottish or Welsh speakers of English or to the *W r* in e.g. *bara* ‘bread’. The orthography is almost exclusively <r>, with some rare occurrences of <rr> intervocalically (PHC Table 782).

When preceded by an occlusive and followed by a vowel metathesis could take place, giving rise to such forms as /derevel/ besides older /drehevel/ ‘to build’ and /perna/ besides older /prena/ ‘to buy’ (PHC 18.3.2).

51. /**rr**/ seems to have been a long variant of /r/. The only instances where MC orthography differentiated this phoneme from /r/ was intervocalically when preceding a stressed vowel. Its orthographic profile in this position is (PHC Table 792):

orthography	CE+P	ORD	BM
rr	45 (88%)	155 (90%)	30 (63%)
r	5 (10%)	18 (10%)	18 (37%)
r3	1		

Word-initially, OC /rr/ was significantly written <hr> in Anglo-Saxon charters, indicating a voiceless *r* like *W rh*. It is possible that this voiceless variant disappeared from C at the same date as it was lost in E, c. 1150 (PHC 18.4.2(1)). On the other hand, Lhuyd stated for word-initial *r* that he believed it to have been aspirated (and unvoiced?) so that it became more or less equivalent to *W rh* (PHC 18.3.1; PSR 18.1.1).²² In Lhuyd’s time this aspirated *r* was apparently not phonemic, whether this was also the case in MC can not be told.

²² Cf. PHC 18.4.2(4), or PSR 18.8.1, where Lhuyd is quoted: ‘The Cornish very rarely asperate their Initial r, (...) but they had this asperation I suppose formerly, for I have frequently observ’d them to say Rhag [For] as well as Rag.’ (*Archæologia Britannica*, p.229).