

QUANTIFYING THE DEVELOPMENT OF POST-TONIC VOWELS IN CORNISH

Dr Ken George
Cornish Language Board

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Early changes to post-tonic vowels in Cornish

Example of stressed vowel			Unstressed vowel in Middle Cornish			
			Closed syllables		Open syllables	
/i/	<i>mis</i>	‘month’	/i/ and /ɪ/ fell together in [ɪ]	/ɪ/	/i/ and /ɪ/ fell together in [i]	/i/
/ɪ/	<i>prys</i>	‘time’				
/y/	<i>mus</i>	‘dumb’	rare	/y/	rare	/y/
/ɛ/	<i>mes</i>	‘out’	/ɛ/ and /œ/ fell together in [ɛ]	/ɛ/	/ɛ/ and /œ/ fell together in [ɛ]	/ɛ/
/œ/	<i>meus</i>	‘thumb’				
/a/	<i>mas</i>	‘good’		/a/		/a/
/ɔ/	<i>mos</i>	‘to go’		/ɔ/	/ɔ/ and /o/ fell together in [ɔ]	/ɔ/
/o/	<i>moes</i>	‘table’				
/u/	<i>tour</i>	‘tower’	mostly in loan-words	/u/	in just one loan-word	/u/

In open syllables, /-ə/ from French [-ə] (e.g. in *dama* ‘mother’) fell together with /-a/ at an early stage.

Post-tonic vowels in Middle Cornish

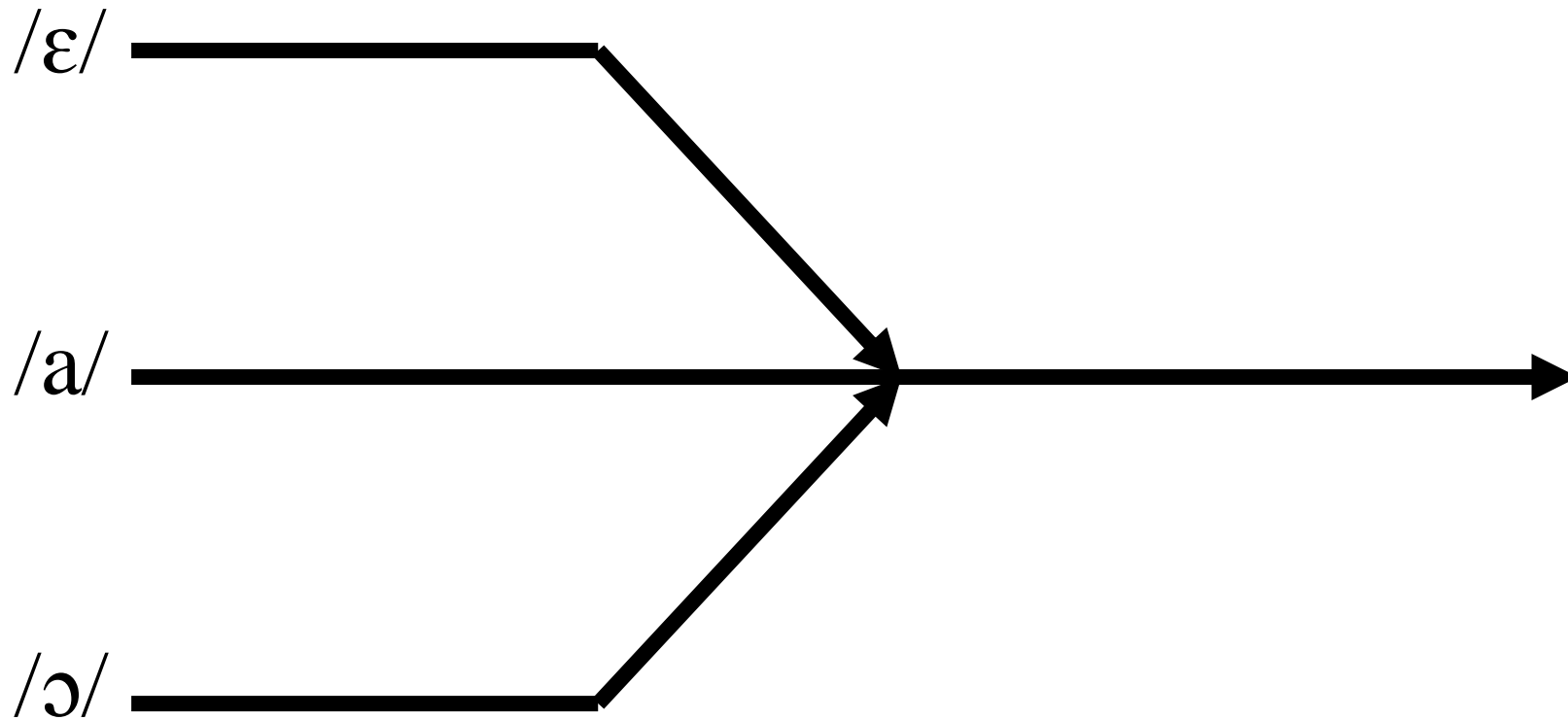
Examples and numbers of cases

Closed syllables			Open syllables		
	Example	No. of cases		Example	No. of cases
	<i>(gwelis)</i>		/i/	<i>gweli</i>	2,600
/ɪ/	<i>gwelys</i>	8,400			
/y/	<i>lavur</i>	600	/y/	<i>vertu</i>	400
/ɛ/	<i>gweles</i>	10,600	/ɛ/	<i>ynne > ynna</i>	7,000
/a/	<i>gwelas</i>	5,300	/a/	<i>ynna</i>	4,200
/ɔ/	<i>gortos</i>	3,000	/ɔ/	<i>ynno</i>	1,700
/o/	<i>kavoos</i>	1,000			
/u/		300	/u/	<i>koukou</i>	1
			/ə/	<i>dame > dama</i>	

Principal mergers of post-tonic vowels

Middle Cornish

Late Cornish



Principal changes to post-tonic vowels

Mergers

/-εC/ > [-aC] *gweles* ‘to see’ > *gwelas* ‘saw’

/-ε/ > [-a] *ynne* ‘in them’ > *ynna*

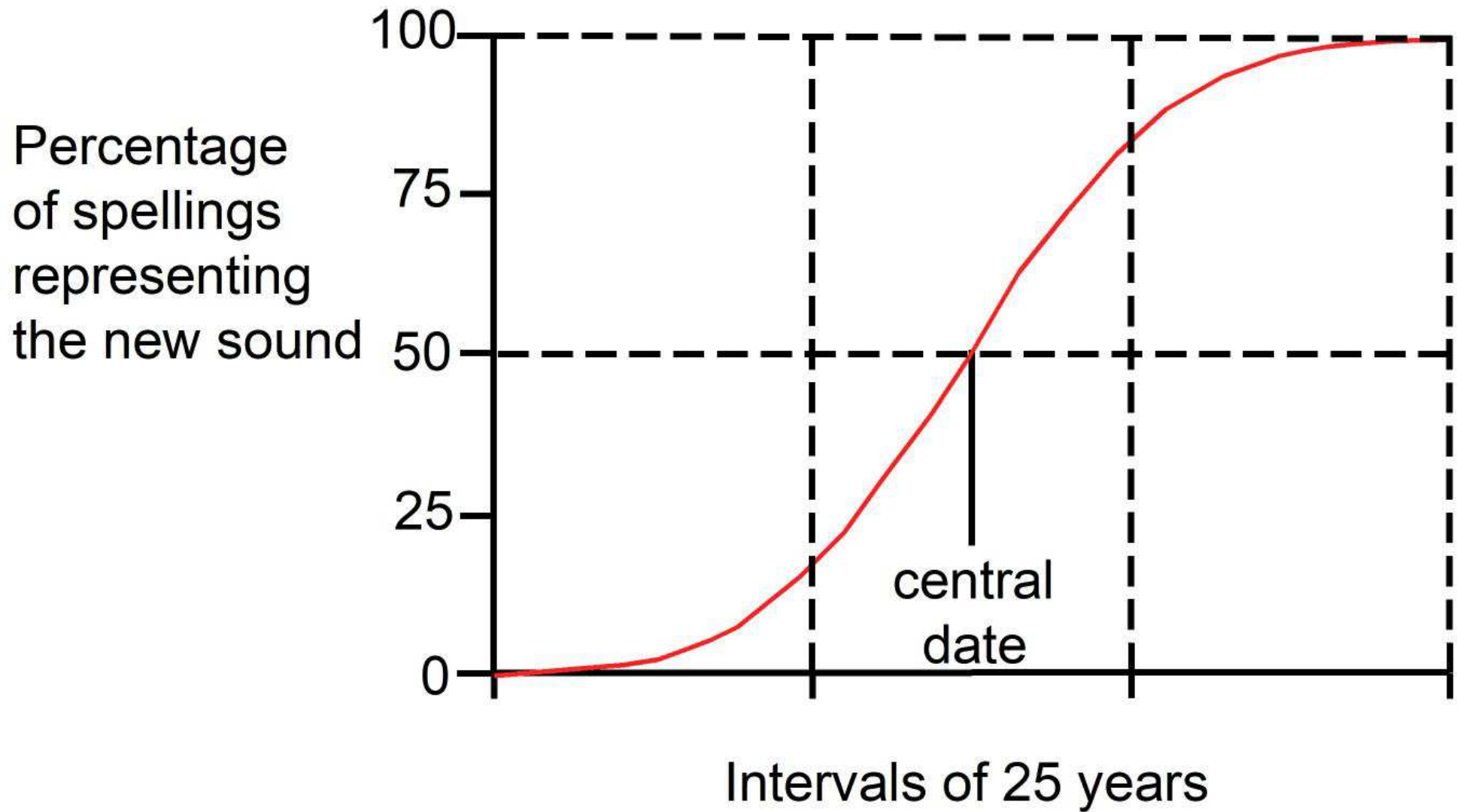
/-ɔC/ > [-aC] *gortos* ‘to wait’ > *gortas* ‘waited’

/-ɔ/ > [-a] *ynno* ‘in him’ > *ynna* (replaced by *ynnans*)

Sound-change

[-ɪC] > [-εC] *gwelys* ‘seen’ > *gweles*

The S-curve $y = \text{erf} \{c (t - \tau)\}$



/-εC/ *gweles* > *gwelas*

	PC	RD	OM	PA	BM	BMb	BK	TH+	SA+	CW+	L17	Lh	L18
{e}	772	559	824	322	1194	85	230	1063	70	167	137	558	150
{a}	21 3%	56 9%	36 4%	111 24%	71 5%	9 9%	454 62%	595 35%	152 67%	574 76%	269 61%	1298 64%	311 65%
{o}	9	3	6	11	10	2	5	11		3	16	37	9
{y}	24	10	31	21	36	1	47	42	5	7	2	57	
{u}	1	1						3				7	
{-}								1			14	58	6

/-ε/ *ynne* > *ynna*

	PC	RD	OM	PA	BM	BMb	BK	TH+	SA+	CW+	L17	Lh	L18
{e}	675	337	536	558	291	19	22	118	2	7	13	2	9
{a}	66 9%	32 9%	62 10%	93 14%	554 65%	48 72%	450 94%	1804 93%	134 98%	576 98%	82 85%	189 95%	271 94%
{o}	2	4	2	6	1		2				1	2	4
{y}				1	1		6	13	1	2	1	5	4
{u}							1						

/-ɔC/ *gortos* > *gortas*

	PC	RD	OM	PA	BM	BMb	BK	TH+	SA+	CW+	L17	Lh	L18
{o}	265	217	180	195	316	7	145	456	31	39	22	50	32
{a}	1 0%	2 1%	2 1%	12 5%	29 7%	2 11%	74 31%	256 33%	25 37%	104 72%	57 48%	117 56%	65 54%
{e}		3	7	4	49	5	12	21	3		35	13	17
{u}	8	1	14		18	4	4	23	5			4	4
{y}					6		1	14	3		2	17	2
{-}										1	1	8	

/-ɔ/ *ynno* > *ynna*

	PC	RD	OM	PA	BM	BMb	BK	TH+	SA+	CW+	L17	Lh	L18
{o}	243	203	203	102	180	4	63	23	1	50			1
{a}	8 0%	5 2%	7 1%		55 21%	1 20%	80 56%	199 89%	17 94%	108 68%	19 100%	32 97%	18 95%
{e}		4	2	5	21		1	2		2		1	

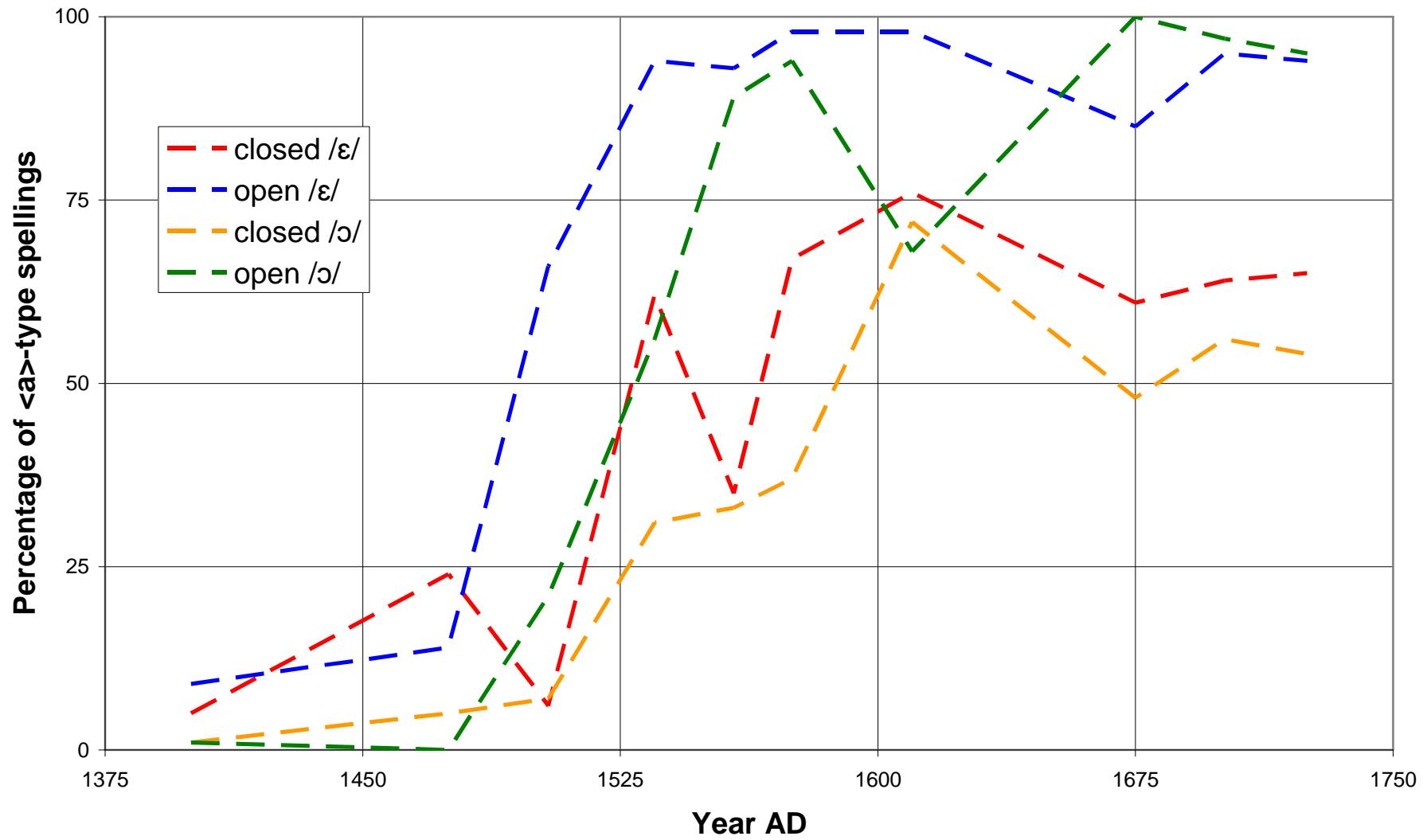
Texts in traditional Cornish

	Date of composition	Date of manuscript	Material	Author
PC	<i>c.1400</i>	<i>c.1400</i>	plays	
RD				
OM				
PA	<i>c.1375</i>	<i>c.1475</i>	poem	
BM	<i>1504?</i>	<i>1504</i>	play	Ton
BMb	<i>1504?</i>	<i>c.1540?</i>		?
BK	<i>c.1535?</i>	<i>c.1565</i>	play	?
TH+	<i>c.1558</i>	<i>c.1558</i>	translation	Tregear
SA+	<i>c.1576</i>	<i>c.1576</i>	translation	Stephyn
CW+	various	<i>1611</i>	play	Jordan
L17	<i>c.1650-1700</i>	<i>1675</i>	various	(many)
Lh	<i>1701</i>	<i>1707</i>		Lhuyd
L18	<i>c.1700-1790</i>	<i>1725</i>		(many)

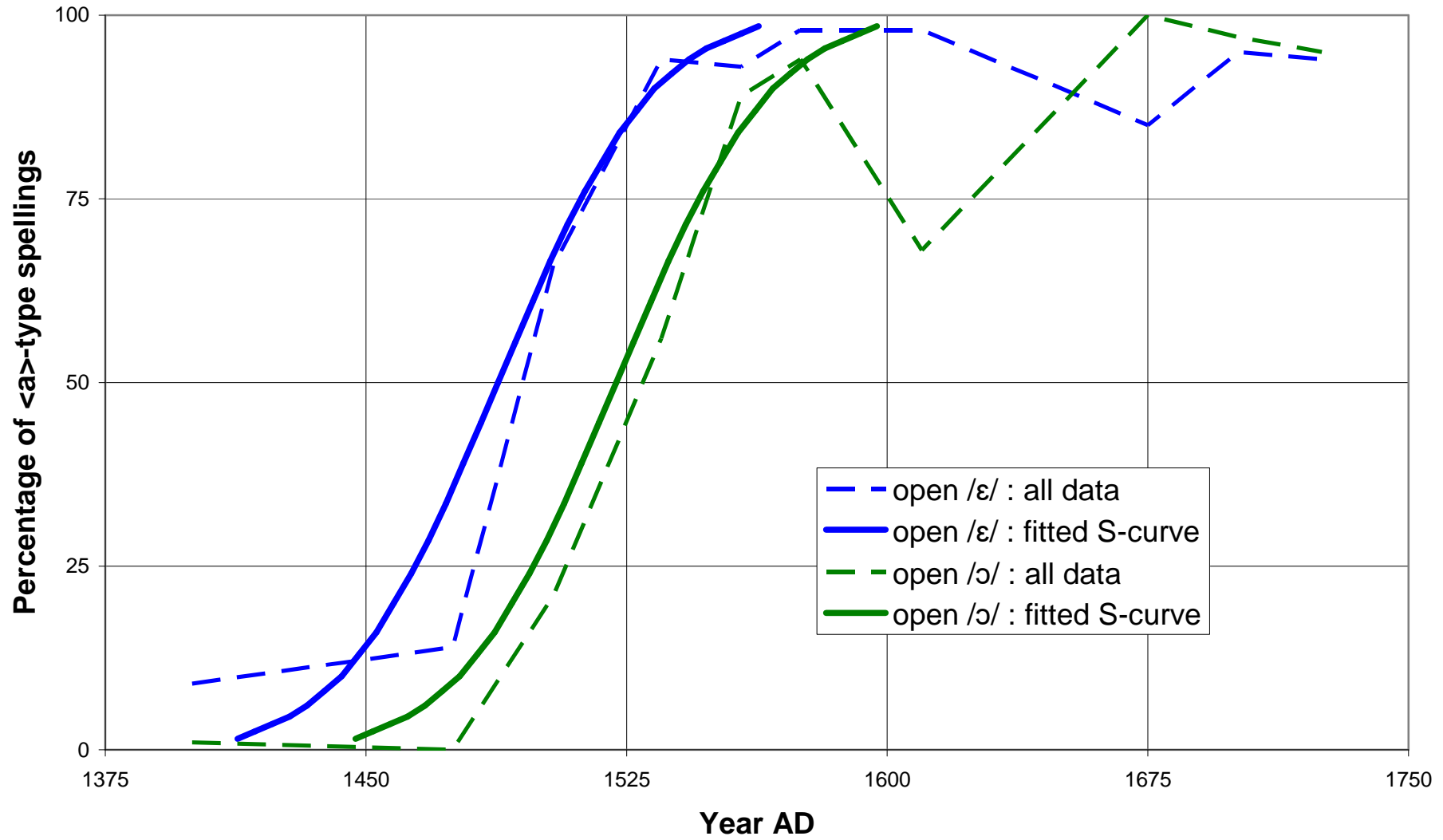
When was *Bewnans Ke* composed?

- The percentages of <a>-forms in BK are greater than those in BM, suggesting that BK is later than BM, i.e. after 1504.
- That the villain in BK (as in BM) is named Tewdar suggests that BK was composed when a Tudor king was on the throne.
- The date of 1535 fits the data fairly well.

Sound-changes (all cases)



Sound-changes : open syllables



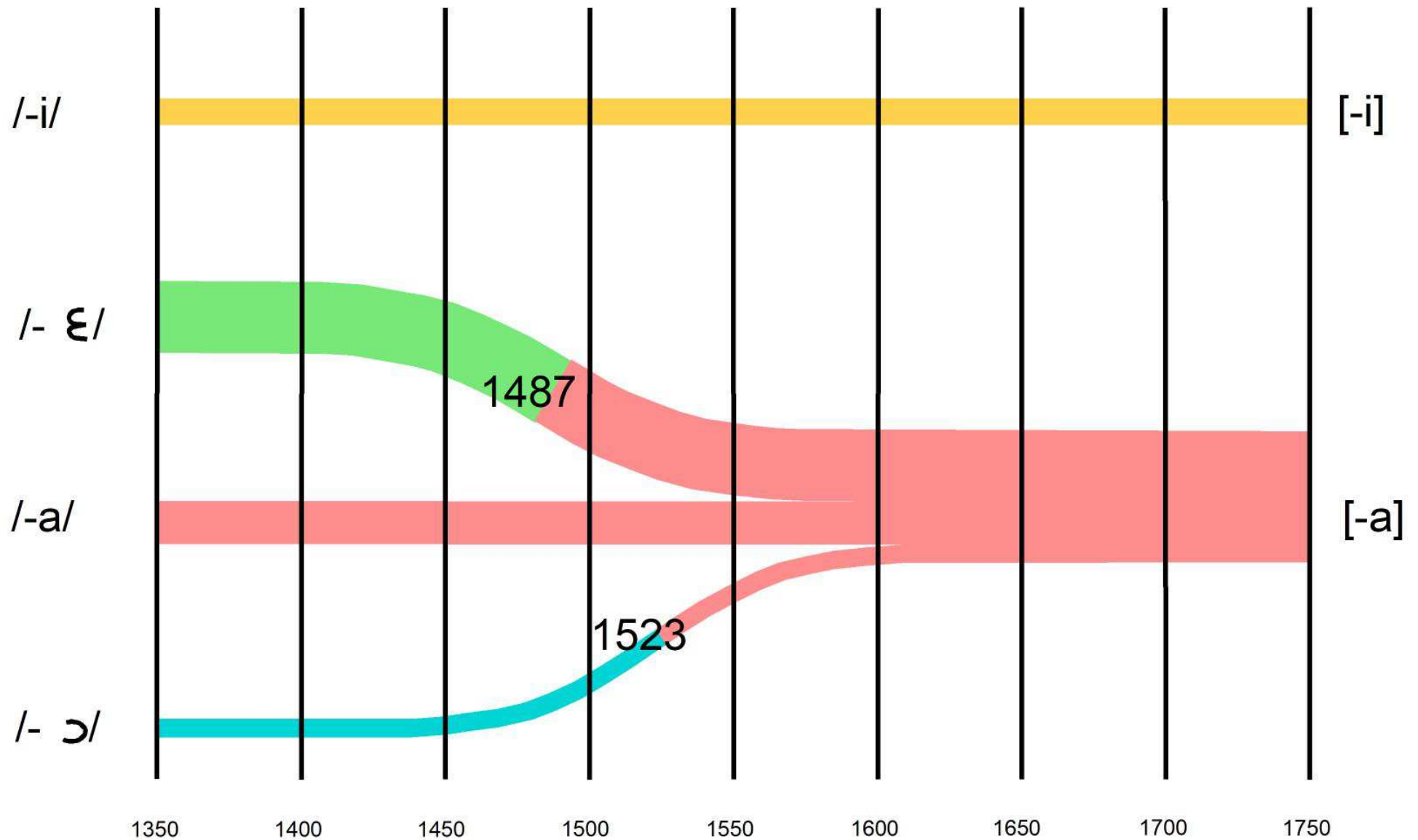
dhymmo ‘to me’ in CW

Scene	Lines	<i>dhymmo</i> with <-o>	<i>dhymmo</i> with <-a>	% with <-a>
First 5 days of Creation	1-112	5	1	17
Fall of Lucifer	113-341			
Creation of Adam and Eve	342-418			
Fall of Adam and Eve	419-1053	10	7	41
Cain and Abel	1054-1391	4	2	33
Adam and Seth	1392-1428 1726-2211	4	4	50
Lamech and Cain	1429-1725	3	5	63
Noah’s flood	2212-2531	2	8	80
Epilogue	2532-2549			

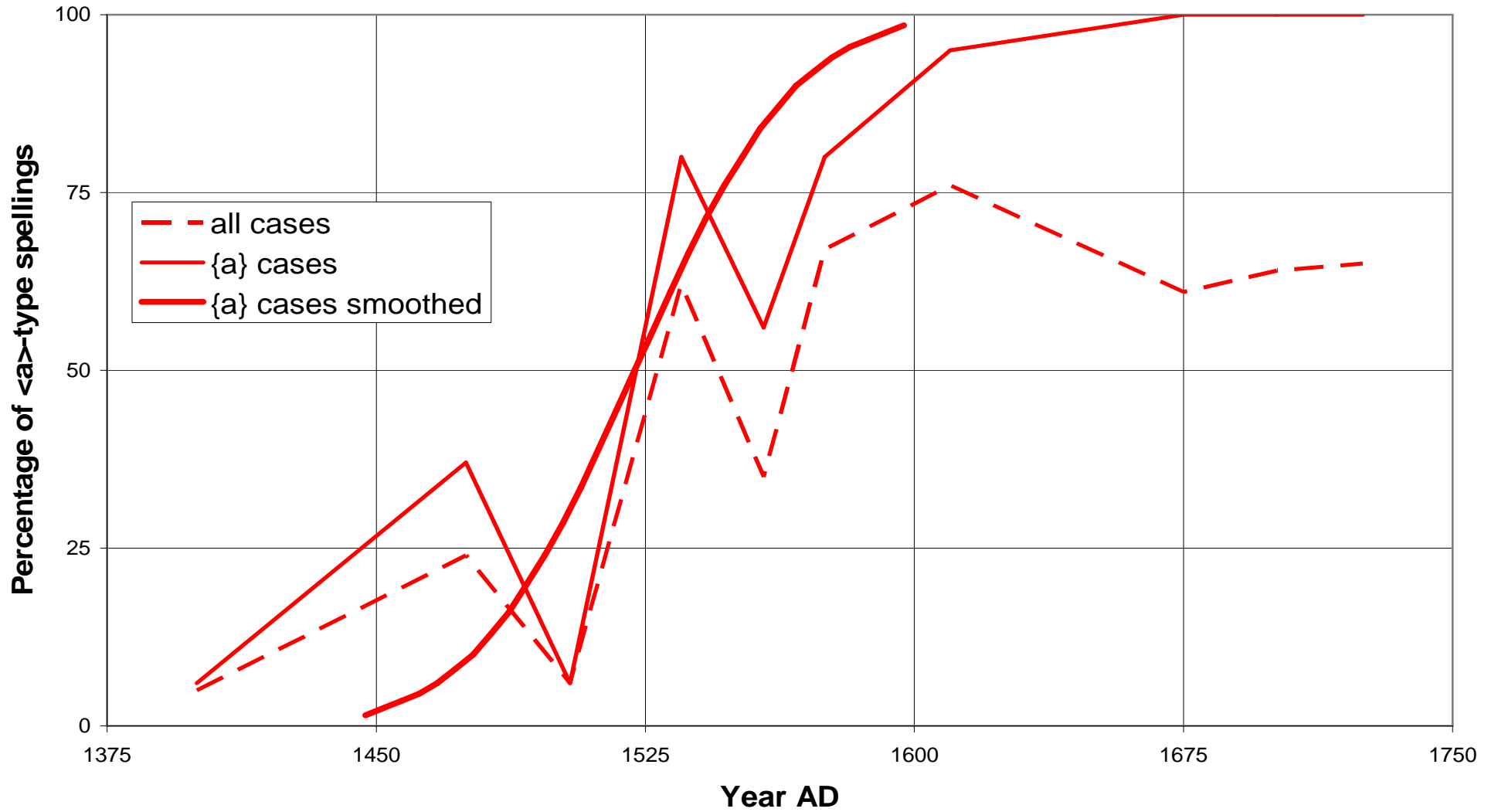
Reform of the third person plural: *gansa* → *gansans*

	/-ε/ > [-a] in progress		/-ε/ > [-a] complete /-ɔ/ > [-a] in progress			
	Bewnans Meriasek 1504		Bewnans Ke 1535?		Tregear Homilies c.1558	
<i>ganso</i> with him	<i>ganso</i>	15	<i>ganso, gansso</i>	3	<i>ganso, gonso</i>	5
			<i>gansa</i>	7	<i>gansa, gonso</i>	10
<i>gansa</i> with them	<i>ganse</i>	4				
	<i>gansa</i>	2	<i>gansa</i>	2	<i>gansa, gonso</i>	4
					<i>gansans</i>	2

Changes in post-tonic vowels in open syllables



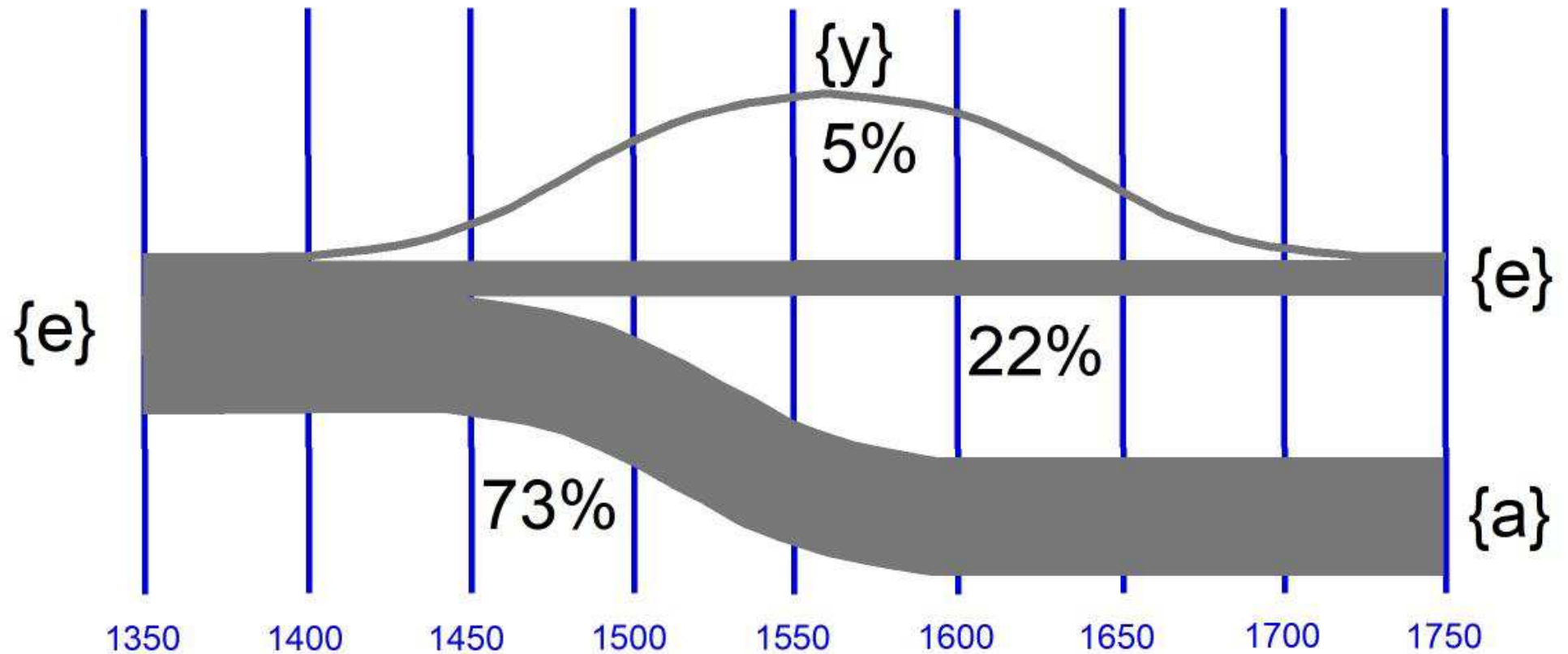
Change of {-eC} to {-aC}



Different developments of historical /-εC/

Class	%age	Native words	Loan-words
Change / -εC/ > [-aC]	73	Verbal nouns in <i>-es, -el</i> Adjectives in <i>-ek</i> Nouns in <i>-eth, -neth, -ter, -der,</i> <i>-yer, -enn</i>	<i>chapel, chatel, maner</i> <i>power, sotel</i>
[-εC] retained unchanged	22	<i>alter, hanter, hevelep, lester</i>	<i>Bethlehem, chapter</i> <i>danjer, kommondment</i> <i>mater, mester, profet'</i> <i>sakrament, Yerusalem</i>
/ -εC/ > [-IC] > [-εC]	5	<i>bresel, bystel, martesen, pobel</i>	<i>anger, kortes,</i> <i>nomber, sempel, tempel</i>
Dimorphic words		<i>esel, gober, gorhel, pronter</i> <i>henedh, kompes, lowenek, lyver</i> <i>nader, skientel, tellek, Trynses,</i> <i>kales, peder, Peder</i>	<i>abel</i>

Developments of /-εC/



Examples of dimorphic words (2)

Peder ‘Peter’ and *peder* ‘four (b.)’

	PC	RD	OM	PA	BM	BK	TH	SA	CW	Lh	VLC
{e}	12	1		1		1		1			1, 1
{a}		6		1							
{y}			1	15	3	2	68				

Spelling of words occurring more than 20 times in TH

Kernewek Kemmyrn	English meaning	<e>	<a>	<y> <i>	Kernewek Kemmyrn	English meaning	<e>	<a>
<i>abosteledh</i>	apostles	36	1		<i>gwiryonedh</i>	truth	27	
<i>benniges</i>	blessed		35	3	<i>kemmeres</i>	to take		32
<i>bolonjedh</i>	goodwill	9	22		<i>leverel</i>	to say	68	45
<i>diwedh</i>	end	24	1	1	<i>lies</i>	many		41
<i>erell</i>	others	26	13		<i>maner</i>	manner	58	
<i>gelwel</i>	to call	3	17		<i>power</i>	power	21	
<i>gweles</i>	to see		21		<i>tyller</i>	place	9	12

In PA, 53 of the 63 cases of <-aC> </-εC/ are /-εs/.

Orthographic profile of closed /o/

arloedh 'lord' dominates the statistics, accounting for 73% of cases

Graph	Interpretation	PC	RD	OM	PA	BM	BK	TH	SA	CW	L17	Lh.	L18
<u>	markers of /o/ in MidC	88	115	103	27	136	136	54	52	17	11		1
<oy>				2	4	10	11						
<ou>		3	2										
<o>	ambiguous	22	9	13	2	6	5					6	
<i~y>	later	1	1	1		1			1		1	4	
<e>	development	2		2						1	15	1	16
<->	loss of vowel											2	
<a>							1	1				3	1
Other							1						3

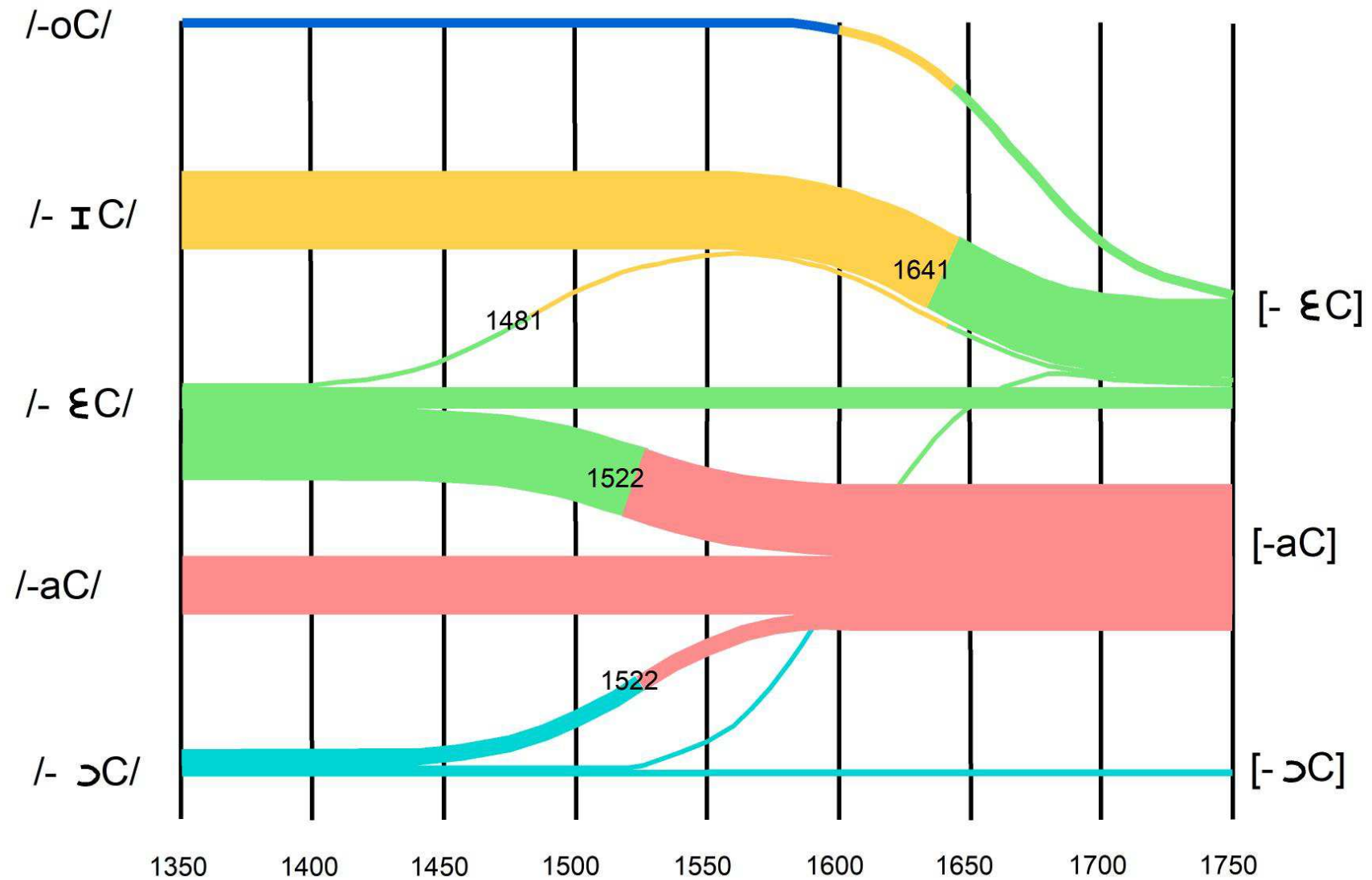
The evolution was [ui] > [ʊ] > [ɛ];
<ui> <u> <e>

i.e. the post-tonic vowel fell together with words having /-iC/ > /-ɛC/.

The word *kavoēs* / *kavos* ‘to get’ was dimorphic in traditional Cornish

		CE	PC	RD	OM	PA	BK	BM	TH	SA	CW	Lh.	VLC
<i>kavoēs</i>	<u>	1	15	7	11			15	26				
	<i, y>			1	1					1			
	<e>				2								
<i>kavos</i>	<o>		3	1	1	9					1		
	<a, a-e>						5	2	2	1	8	15	30

Changes in post-tonic vowels in closed syllables



Post-tonic vowels in Late Cornish

Genesis chapter 3, verses 1 to 4, translated by William Rowe

- 1 Lebben an hagar-breeve o moy foulze a vell onen vethell an Bestaz an gweale a reege an Arleth Deew Geele: Ha e a lavarraze tha an Vennen, Eah! reeg Dew lawle, Che na raze debre a kenevrah gwethan an Looar?
- 2 Ha an vennen a lavarraz tha an hagar-breeve, ni a ell debre a thore oll an gweth an loar.
- 3 boz thort an gwethan a ez en crease an Loar, Deew a lavarraz hwy nara debry na narewa e thotcha, lez why a varaw.
- 4 Ha+an hagar-breeve a lavarraz than Vennen, why nara seere merwall.

Late Cornish	No. of cases	Kernewek Kemmyn	English meaning	Unstressed vowel
<i>arleth</i>	1	<i>arloedh</i>	lord	[ɛ] < /o/
<i>vennen</i>	3	<i>benyn</i>	woman	[ɛ] < /ɪ/
<i>bestaz</i>	1	<i>bestes</i>	beasts	[a] < /ɛ/
<i>debre/debry</i>	3	<i>dybri</i>	to eat	/i/
<i>gwethan</i>	2	<i>gwydhenn</i>	tree	[a] < /ɛ/
<i>hagar</i>	3	<i>hager</i>	ugly	[a] < /ɛ/
<i>kenevrah</i>	1	<i>keniver</i>	as many	[a] < /ɛ/
<i>lebben</i>	1	<i>lemmyn</i>	now	[ɛ] < /ɪ/
<i>lavarraz(e)</i>	4	<i>leveris</i>	said	/a/
<i>lo(o)ar</i>	3	<i>lowarth</i>	garden	/a/
<i>merwall</i>	1	<i>merwel</i>	to die	[a] < /ɛ/
<i>thotcha</i>	1	<i>tochya</i>	to touch	[a] < /ɛ/
<i>vethell</i>	1	<i>vytholl</i>	at all	unexpected

Analysis of William Rowe's writings

Phoneme in MidC	<-eC>	<-aC>	<-oC>	<-iC> <-yC>	<-uC>	<-auC>	<-eeC>
/-iC/	70 > [-εC]	3		8			2
/-εC/	37	77 > [-aC]				1	
/-ɔC/	10	17 > [-aC]	15				
/-oC/	15 > [-εC]	1			1		
/-aC/		96 = [-aC]					
/-uC/					7		
/eIC/				1			

Phoneme in MidC	<-i> <-y>	<-e>	<-a>	<-ah>	<-o>
/-i/	2 = [-i]	25 = [-i]			
/-ε/		12	65 > [-a]	17 > [-a]	1
/-ɔ/			17 > [-a]		
/-ə/			6 > [-a]	4 > [-a]	
/-a/		1	35 = [-a]	7 = [-a]	
/-ɔʊ/		1	2		4

Results from Late Cornish

	Closed syllables					Open syllables			
	L17		L18			L17		L18	
{a}	545	54%	552	56%		457	84%	381	89%
{ah}						33		26	
{e}	345		319			71		25	
{i}	12	38%	41	38%		5	15%	8	10%
{y}	33		11			14		11	
{o}	32		40			4	1%	6	2%
{u}	23	8%	6	6%				2	
{-}	26		11						

Nicholas Williams' ideas

Williams (*Cornish Today*, 1995 edn., p. 53)

“In Middle Cornish inherited unstressed /a/, /e/ and /o/ had as a result of the prosodic shift fallen together as /ə/.”

Williams (*Cornish Today*, 1995 edn., p. 122)

“All unstressed vowels are schwa from the Middle Cornish period onwards”.

Williams (*Towards Authentic Cornish*, 2006, p. 29)

“I believe the Prosodic Shift occurred in the twelfth century.”

Williams' "evidence" for schwa

'HEART'

colan OM 357, BM 940, 1003, 2277, SA 61a, 65a, TH 9a, 19a, 20a, 21 x 2, 23a, 26a, 28, 30 x 2, 54, BK 363, 587, 733, 949, 1076, 1435, 1587, 1703, 2229, 2277, 2317, 2339, 2383, 2347, 2391, 2405, 2556, 2616, 2646, 2682, 2979, 3026, 3159, 3218, 3287, CW 306, 1199, 1206, 1212, 1224, 1228, 1263, 1351, 1391, 1503, 1523, 1689, 1964, 1998, 2496; *collan* CW 284, 734, N Boson x 2 (BF: 27, 31)

colen PA 115c, OM 365, 428, BM 2049, 2408, 3585, 3589

colon PA 1a, 25c, 26d, 30a, 37a, 40d, 81d, 87a, 89b, 101a, 122c, 126d, 128c, 139a, 141d, 164b, 166c, 172b, 172d, 186c, 216d, 217d, 218d, 219a, 221b, 222c, 223a, 224b, 225b, 228b, 231d, 256c, OM 511, 527, 721, 1264, 1337, 1376, 1381, 1525, 1568, 1608, 1758, 1857, 1873, 2088, 2135, 2174, 2181, 2628, 2748, 2818, PC *passim*, RD *passim*, BM 297, 545, 683, 690, 1258, 2507, 2598, 2606, 2992, 3034, 3560, 3494, 3650, 3788, 4102, TH 15a

colyn BM 628, 1804.

Williams (*Towards Authentic Cornish*, 2006, pp. 171, 172)

kolonn ‘heart’

	VC	PC	RD	OM	PA	BM	BK	TH	SA	CW	Lh	VLC	total	Williams
<o>	1	25	49	20	33	15		1			2	8	154	68
<a>				1		3	28	12	3	17	8	6	78	61
<e>				2	1	5							8	7
<y>						2							2	2
arall												1	1	0

- 95% of the cases may be explained by the ideas put forward in this talk, viz. /-ɔC/ > /-aC/.
- Williams does not show all of the cases.

Summary of mean dates of changes

(rounded to nearest 5 y)

*c.*1485 /-ε/ > [-a]

*c.*1525 /-ɔ/ > /-a/ /-εC/ > /-aC/ /-ɔC/ > /-aC/

*c.*1640 /-ɪC/ > [-εC]

*c.*1670 /-oC/ > [-εC]

Conclusions

- The unstressed vowels fell together with one another so that in Late Cornish only three were left: [ɛ] and [a] in closed syllables; [i] and [a] in open syllables.
- The dates of the mergers have been established.
- The mergers did not occur in all potential cases.
- BK appears to have been composed later than BM, perhaps c. 1535.
- Williams' idea that every unstressed vowel was schwa is manifestly incorrect.