



How inaccurate rhymes reveal Old Norse vowel phonemes

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This article discusses so-called inaccurate rhymes in Old Norse *dróttkvætt* poetry and their bearing on the phoneme structure of Old Norse. Inaccurate rhymes between /o/ and /a/ do occur, but were to some extent avoided in Old Norse poems in the eleventh and the twelfth century. The same applies to rhymes between /ó/ and /á/ in the second half of the twelfth century. This avoidance confirms the status of /ó/ as a phoneme by providing, indirectly, an opposition between /á/ and /ó/. Furthermore, rhymes between the diphthong /ja/ and the vowel /a/ were used infrequently in the tenth century, and the diphthong /jó/ and the vowel /ó/ were not rhymed at all. Thus /ja/ and /jó/ were not treated as a sequence of a consonant /j/ and a vowel.

1 Introduction and preliminaries

Rhyme in the regular *dróttkvætt* meter between CE 900 and CE 1400 is an important source of information on phonemes in Old Norse. In this article, I will show that more information can be extracted from this rhyme than previously realized by noting significant changes in the frequency of so-called inaccurate rhymes. I use the following argument: If the frequency of a rhyming pair involving two vowels is significantly lower in one century than in another, I deduce that the rhyme is avoided to some extent, and because this is not possible unless the vowels are distinguishable, this is evidence for their distinctness.

The *dróttkvætt* meter features a syllabic rhyme of two types. Beginning with the poem *Haustlǫng* around the year 900, the meter introduced full-rhyme (*aðalhending*) (see Þorgeir Sigurðsson 2021). A distinction was made between half-rhyme (*skeithending*) on one hand, used in odd-

numbered metrical lines of the meter, in which only consonants needed to correspond to each other, and full-rhyme on the other, used in even-numbered metrical lines of the meter, in which vowels must be in the same equivalence class (full-rhyme was also permissible in odd lines). In this article, the word “rhyme” refers to the rhyming of vowels in the full-rhyme of even-numbered lines.

What makes vowels equivalent in rhyme is debated by linguists. In most cases, phonemes rhyme with themselves exclusively. A noticeable exception is the phoneme /ø/, historically produced by an u-umlaut of /a/, which often rhymes with its “parent”, /a/. Hreinn Benediktsson (2002) described this rhyme in his article “Phonemic neutralization and inaccurate rhymes” (first published in 1963). He gave it a phonological explanation, according to which two phonemes rhyme if they differ by a single distinctive feature, which is neutralized in a specific phonological environment. The short phonemes /a/ and /ø/ differ through the distinctive feature *round*. The same applies to their long counterparts, the phonemes /á/ and /ǫ/. The phonological environment that neutralizes this difference is the presence of /u/ in a following syllable, often in an inflectional ending. Hreinn Benediktsson acknowledged that this environment had once triggered an u-umlaut, but he insisted that this was immaterial. Synchronically, the neutralization linked the /a/ and /ø/ phonemes to each other. Other umlaut phonemes did not have any neutralizing environments and did not rhyme with their “parents.” Hreinn Benediktsson noted that his explanation also applied to the inaccurate rhyming of nasal vowel phonemes and their “parent” oral vowel phonemes; they differ by the feature *nasal*, but their difference is neutralized by an adjacent nasal consonant (/n/ or /m/).

Some linguists have expressed doubts about Hreinn Benediktsson’s explanation of inaccurate rhymes,¹ but they have not challenged his understanding that /a/ and /ø/, and /á/ and /ǫ/, are metrically equivalent. Because Hreinn Benediktsson was able to find instances of rhyme between /ǫ/ and /á/ for the whole lifespan of /ǫ/, which ended when /ǫ/ merged with its “parent” phoneme /á/, he thought that Old Norse rhyme did not provide any information on the existence of /ǫ/. In his publica-

1. See, for instance, Steblin-Kamenskij’s objections in Einar Haugen’s account (1972: 1556), Kristján Árnason (1991: 104–105), and a discussion by Haukur Þorgeirsson (2013: 361) in his PhD thesis (in the English summary).

tion *The First Grammatical Treatise*, Hreinn Benediktsson (1972: 121) wrote of the opposition /ǫ/ versus /á/: “[M]etrical evidence fails to confirm this opposition; both vowels are treated as a single metrical unit, even in the *aðalhendingar*, in which only identical vowels are rhymed together.” If this was correct and they were truly treated as a single metrical unit, the frequency of the á:ǫ rhyme should not be significantly different in different centuries, but in this article I find that it is.

When umlauts create new phonemes, inaccurate rhymes are likely to appear temporarily, but the duration of the a:ǫ rhyme in Old Norse seems far too long for an u-umlaut in progress. Hreinn Benediktsson noted that this rhyme was present in the oldest regular rhyming poetry in Norway (from around the year 900) and lasted into the second half of the twelfth century in Iceland. I will show, however, that the time span for a freely rhyming /a/ and /ǫ/ was shorter. The frequency of the a:ǫ rhyme was already reduced by half in the eleventh century and it was very low in the second half of the twelfth century. Furthermore, I will show that three other phonemes “in transition” had rhymes that appeared infrequently. These are the rising diphthongs /ja/, /jǫ/, and /jó/.

Hreinn Benediktsson did not include the rhyme of /ja/ versus /a/, or /jǫ/ versus /ǫ/, in his discussion of inaccurate rhymes. Kristján Árnason (2011: 8) said:

These short diphthongs came about by the ‘breaking’ of older /e/, in certain environments. This breaking involved the epenthesis of a low vocalic quality after the /e/, which then lost its syllabicity and became a glide [j]. This type of analysis gets support from the fact that the initial sound of *jǫrð* ‘earth’ alliterated with vowels in eddic [sic] and skaldic poetry.

During an early stage, the short diphthongs (/ja/ and /jǫ/) seem only to have rhymed accurately with themselves. Linguists have not expected Old Norse rhyme to give any information on this stage, but it does, by not allowing /ja/ to rhyme freely with /a/ in the tenth century (see Section 3).

Initially, the a-breaking of /e/ added a new phoneme to Old Norse, which was later removed by a splitting of the rising phoneme /ja/ into two separate phonemes, /j/ (possibly a consonantal /i/) and /a/, of which the last one was identical to the already existing /a/. The /a/ from /ja/ may be said to have merged with the older /a/. One may presume that a

merger of two phonemes has three rhyming phases: one in which the two phonemes do not rhyme, another when they rhyme sporadically, and a third where the two former phonemes rhyme freely. When a phoneme is split from another phoneme (for instance by an umlaut), these phases come in reverse order. The intermediate phase may have been short and easily ignored, but I presume that the following inaccurate rhymes in fact belong to a long intermediate phase: /ǫ/ vs. /a/, /ǫ́/ vs. /á/, /ja/ vs. /a/, /jǫ/ vs. /ǫ/, and /jó/ vs. /ó/. I note that this does not conflict with Hreinn Benediktsson's thesis about the prerequisites for inaccurate rhymes. If these prerequisites were not met, the intermediate phases would not be long.

When a vowel phoneme splits into two, poets can, if they choose, continue the practice of older poets, and treat the two new phonemes as one metrical unit. When two phonemes merge, on the other hand, it is impossible for them to keep the old distinction and treat the merged phoneme as two phonemes (because they and their audience cannot distinguish between them). However, in the case of rising diphthongs, the /j/ marks the old phoneme and makes it possible to keep the old distinction. Thus, if poets used rhymes with /a/ and /ja/ infrequently, it need not mean that /ja/ was not composed of two phonemes: /j/ and a vowel. It could mean that the poets saw /ja/ as a single unit, or chose to treat /ja/ as such. Nevertheless, because the poets were under pressure to produce rhymes, and because a neutralizing environment existed that linked /a/ and /ja/ (see end of Section 6), it is not likely that they would deny themselves of *a:ja* rhymes for long (see more on this in Section 6).

For rhymes with /a/ versus /ǫ/, and with /a/ versus /ja/, only two of the three rhyming phases are demonstrable. One of the phases came, presumably, before the earliest poems with full-rhyme were composed (around the year 900). The rhyme of the phonemes /ǫ́/ versus /á/ is a special case because /ǫ́/ (created by u-umlaut of /á/) merged ultimately with its "parent" phoneme /á/ (see above and Section 5). The /ǫ́/ and /á/ phonemes can, however, be shown to have rhymed more freely before and after the second half of the twelfth century.

The diphthong phoneme /jó/ derives from the Germanic /eu/. The extant poetry displays all its three rhyming phases. The phonemes /jó/ and /ó/ did not rhyme at all in the tenth century, and during the eleventh century, rhyming of them was very rare. In the twelfth century, *ó:jó* rhymes may have continued to be somewhat avoided (see Section 7).

The above assertions are demonstrated and discussed in the following sections.

2 A:ϕ rhymes – a traditional approach

The table below uses data from the PhD thesis of Klaus Johan Myrvoll (2014: 154). It displays the number of *a:ϕ* rhymes that occur in different centuries.² The first column gives the number of rhyme pairs of *a* versus *a*. The second gives the number of pairs with the rhyme *ϕ* versus *ϕ*. The third column gives the number of inaccurate rhyme pairs of *a* versus *ϕ*. The fourth column shows the percentage of inaccurate *a:ϕ* rhymes in the group of *a:a*, *ϕ:ϕ* and *a:ϕ* rhymes.

Myrvoll, and Hreinn Benediktsson before him, did not discuss whether the frequency of *a:ϕ* rhymes was as expected. If *a* and *ϕ* were truly equivalent in rhyme, it is, however, intuitively clear that the *a:ϕ* rhymes should far exceed the *ϕ:ϕ* rhymes in number. If *ϕ* words (words having an *ϕ*) were as frequent as *a* words (words having an *a*), and all words were equally strong in rhyme, the number of *a:ϕ* rhymes should be twice the number of *ϕ:ϕ* rhymes. It should, in fact, be even larger, because *a* words are far more numerous than *ϕ* words.

Table 1: Number of rhyme-pairs of *a* and *ϕ* by major poets (data from Myrvoll 2014)

	<i>a:a</i>	<i>ϕ:ϕ</i>	<i>a:ϕ</i>	<i>a:ϕ</i> percentage of <i>a:a + ϕ:ϕ + a:ϕ</i>
Until CE 1000	270	58	61	16%
CE 1000–1100	350	96	63	12%
CE 1100–1200	350	59	17	4%
CE 1200–1300	145	24	-	0%

2. Myrvoll did not include poetry from the *Njáls saga* or the *Grettis saga*. Scholars agree that much of the poetry in these sagas is not authentic. He did not include Bragi and Torf-Einarr of the early *dróttkvætt* tradition, who did not have mandatory full-rhyme in their poetry.

For the twelfth century, it is clear that *a:ɔ* rhymes were mostly avoided, because their frequency in Table 1 is very low and much lower than in the previous centuries. For the eleventh and the tenth centuries, the frequencies are also lower than might be expected (as discussed above), but this need not mean that *a:ɔ* rhymes were avoided to some extent. The data could be contaminated with data from the thirteenth century when *a:ɔ* rhymes were no longer in use. Another reason might be that Table 1 includes rhymes of more phonemes than /a/ and /ɔ/, the additional phonemes being /ja/ and /jɔ/.

We can test whether contamination is a likely reason by using data sets that are less likely to be contaminated. Also, by treating rhymes with /ja/ and /jɔ/ separately, we can see if the percentage of *a:ɔ* rhymes is affected. I do this in the next two sections, where I only use rhymes in poems and exclude the less trustworthy *lausavísur* ‘freestanding stanzas.’

3 Rhymes with /ja/ and /jɔ/

The /ja/ in Old Norse was produced by a so-called a-breaking from /e/ (Noreen 1923: § 87). The result is traditionally described as a semivowel, /j/, plus a short vowel, /a/, but Kristján Árnason theorized (see Introduction) that this result did not come about immediately. The rhyming behavior of /ja/ supports this (see Section 6 and this section). This is also assumed by Noreen (1923: § 88), who maintained that /ja/ was initially a falling diphthong: “wird aus *e* zunächst der fallende diphthong **ea*, woraus dann steigendes *ia*.” For this study, I created three data sets of Old Norse poetry in the *dróttkvætt* and *hrynhent* meters.³ One includes all poems with eight or more extant half-stanzas from the pagan period before year 1000; these are (with the number of rhymes in parentheses): *Haustlong* (80), *Glymdrápa* (32), *Hákonardrápa* by Guthormr sindri (28), *Vellekla* (114), *Gráfeldardrápa* (41), *Sigurðardrápa* (16), *Máhlíðingavísur* (64),⁴ *Húsdrápa* (28), *Hákonardrápa* by Tindr (40), and *Þórsdrápa* (80). These poems have 527 rhymes in total. This selection leaves out *lausavi-*

3. Like Myrvoll, I exclude two minor meters with rhyme: *tøglað* and *runhent*.

4. *Máhlíðingavísur* ‘stanzas of the people from Máhlíð’ may in fact be a collection of *lausavísur* rather than a poem. Finnur Jónsson (1912–1915 B II: 607) lists *Máhlíðingavísur* under names of poems, but after this title on page B I, p. 105, he writes “*lausavísur* 983–984” in parenthesis.

sur by Eyvindr Finnsson, Egill Skallagrímsson, Gísli Súrsson, and Kormákr Ögmundarson, which constitute about half the tenth century data set used by Myrvoll. Another data set consists of poems⁵ by major poets of the eleventh century: Hallfreðr Óttarsson (151), Þórðr Kolbeinsson (42), Þormóðr Kolbrúnarskáld (60), Sigvatr Þórðarson (455), Þjóðolfr Arnórsson (197), Arnórr Þórðarson (283), Steinn Herdísarson (96), and Markús Skeggjason (103). These have a total of 1401 rhymes. Myrvoll used the same poets to represent the eleventh century; however, I moved Markús from the twelfth century to the eleventh (he died in 1107),⁶ and I moved Hallfreðr from the tenth century to the eleventh.⁷ The third data set consists of four long ecclesial poems generally assumed to be from the second half of the twelfth century: *Geisli* (284), *Harmsól* (260), *Placitusdrápa* (236), and *Leiðarvísan* (180). These have a total of 960 rhymes. This selection excludes *lausavísur* in all three data sets. The *lausavísur* are more likely to be inauthentic than stanzas in poems, and possibly of lower quality. Furthermore, this selection excludes three shorter poems, each of unique character, usually attributed to the twelfth century, but which could be from the eleventh century or even the thirteenth century: *Rekstefja* (140), *Íslendingadrápa* (108), and *Ólafs drápa* by anonymous (112). Like Myrvoll, I use Finnur Jónsson's 1912–1915 edition of Old Norse skaldic poetry, except where I state otherwise.⁸

The following table provides the number of rhymes with /a/ and /ja/ in these three data sets. I include a sixth column with the *a:ja* percentages of the total rhymes. The total number of rhymes is 527, 1401, and 960 rhymes for the tenth, eleventh, and twelfth centuries (see earlier). I use these percentages when comparing rhyme in different centuries, because they are statistically stronger than the percentages of *a:a+ja:ja+a:ja* rhymes.

5. The number of poems is large, but most are only known from short quotations.
6. Markús belongs better with the eleventh-century poets than with poets working between the years 1150 and 1200.
7. Finnur Jónsson's edition splits his poetry between the two centuries. Hallfreðr is among the first Christian masters.
8. I follow Myrvoll where he deviates from Finnur Jónsson's edition. I use Finnur Jónsson's stanza numbers, his dating of poetry, and his grouping of stanzas into poems. A new collaborative edition, *SkP*, was begun in 2007 and is ongoing. It has, in almost all cases, the same rhymes. It provides an English translation and background material for all the poems and poets mentioned.

Table 2: Number of rhyme-pairs of *a* and *ja* in poems

	<i>a:a</i>	<i>ja:ja</i>	<i>a:ja</i>	<i>a:ja</i> percentage of <i>a:a+ja:ja+a:ja</i>	<i>a:ja</i> percentage of total rhymes
Until CE 1000	76	10	11	11%	2.09%
CE 1000–1100	161	11	53	24%	3.78%
CE 1150–1200	128	3	52	28%	5.42%

Table 2 shows a large difference in the frequency of *a:ja* rhymes between the tenth century and later centuries. The number of *a:ja* rhymes would need to have been more than doubled in the tenth century to reach the level it stood at in the twelfth century.⁹ Furthermore, in Section 7, I argue that four of the *a:ja* rhymes from the tenth century are inauthentic; this would lower the percentage for that century to 1.51%¹⁰ (from 2.09%) and the percentage of total rhymes to 7.5% (from 11%).

/jɔ/ was created by the u-breaking of */e/*. It is much rarer in rhyme than */ja/*, as seen in Table 3. I note that there are no *jɔ:jɔ* rhymes in the data set for the twelfth century. This probably reflects how difficult it was for poets to find useful *jɔ:jɔ* rhymes, as may be deduced from the following: all three *jɔ:jɔ* rhymes before year 1000 use the words *fiȝr*-‘life’ versus *hȝr*-‘sword’ (*Máblíðingavísur* 5.2, *Vellekla* 9.2, and *Vellekla* 13.9). In the eleventh century, five out of eleven *jɔ:jɔ* rhymes use these same words (*Ólafsdrápa* by Hallfreðr 4.6, *Þorgeirsdrápa* 10.4, *Tryggvaflokkur* 1.8, *Magnúsflokkur* 13.4, and *Magnúsflokkur* 14.6). In the ecclesial poems of the twelfth century, these rhyming words of violence were not popular. It would have been much easier to find mixed *ɔ:jɔ* rhymes than *jɔ:jɔ* rhymes. Nevertheless, the data set for the tenth century has only two of them—presumably because they were inaccurate.

9. The difference between the proportions in the tenth and the twelfth century is statistically significant, with $P = 0.002 < 0.01$, comparing 2.09% ($N = 527$) to 5.42% ($N = 960$), using MedCalc (see Bibliography).

10. I arrive at this number by subtracting the 64 rhymes of *Máblíðingavísur* from the total of 527 and dividing 7 (the 11-4 remaining *a:ɔ* rhymes) by the result.

Table 3: Number of rhyme-pairs of ϱ and $j\varrho$ in poems

	$\varrho:\varrho$	$j\varrho:j\varrho$	$\varrho:j\varrho$	$\varrho:j\varrho$ percentage of $\varrho:\varrho+j\varrho+j\varrho$	$\varrho:j\varrho$ percentage of total rhymes
Until CE 1000	9	3	2	14%	0.38%
CE 1000–1100	44	11	17	24%	1.21%
CE 1150–1200	17	0	11	39%	1.15%

$\varrho:j\varrho$ rhymes occur more frequently over time, as do $a:ja$ rhymes, but because rhymes with $j\varrho$ are far fewer than rhymes with ja , I cannot similarly claim that $\varrho:j\varrho$ rhymes were significantly less frequent in the tenth century.¹¹ However, it is likely that the same applied to $\varrho:j\varrho$ rhymes as to $a:ja$ rhymes and that both types were largely avoided. This can be supported by considering the *runhent* poem *Höfuðlausn* by Egill Skallagrímsson from the middle of the tenth century; it has five $j\varrho:j\varrho$ rhymes but no $\varrho:j\varrho$ rhyme.¹²

As is customary, Myrvoll and Hreinn Benediktsson included all rhymes of /ja/ with rhymes of /a/, and of /jϑ/ with rhymes of /ϑ/. This has an effect on the $a:\varrho$ proportions of the $\varrho:\varrho+a:\varrho$ rhymes, because it increases the number of $a:a$ rhymes and $\varrho:\varrho$ rhymes, while the increase in $a:\varrho$ rhymes is small. The increase in $a:\varrho$ rhymes comes from $\varrho:ja$ rhymes, $ja:j\varrho$ rhymes, and $a:j\varrho$ rhymes, and they are all rare. Table 4 provides an overview.

Table 4: Number of rhymes with /ja/ and /jϑ/ in the three data sets

	$ja:ja$	$a:ja$	$\varrho:ja$	$ja:j\varrho$	$a:j\varrho$	$\varrho:j\varrho$	$j\varrho:j\varrho$
Until CE 1000	10	11	1	1	1	2	3
CE 1000–1100	11	53	0	1	2	17	11
CE 1150–1200	3	52	0	1	1	11	0

- The difference between the proportions in the tenth and eleventh centuries is **not** statistically significant, with $P = 0.10 > 0.05$ comparing 0.38% ($N = 527$) to 1.21% ($N = 1401$), using MedCalc.
- Finnur Jónsson's edition has the rhyme *hjϑr : gϑr* among these five rhymes. It has been suggested that *gϑr* should be *gϑr*, but recently Haraldur Bernharðsson (2006: 61) concluded that the correct word is *gjϑr*.

The *ja:j̥* rhymes are similar to the *a:ɔ* rhymes in that only one distinctive feature (*round*) separates the rhyming entities, and this distinction is neutralized in the same environment (the presence of *u*). The extra rarity of *ja:j̥* rhymes compared with *a:ɔ* rhymes (see Table 5) may only be due to the rarity of both /ja/ and /j̥ɔ/ as compared to /a/ and /ɔ/. The rhymes with *ɔ:ja* and *a:j̥ɔ* are also very rare. For them, the phonemes involved are not as rare (compared to the phonemes for the *ja:j̥* rhymes), but the difference between them amounts to something more than one distinctive feature, which was, presumably, the reason for their particular rarity.

In the next section, I exclude all the rhymes in Table 4. This leads to an increase in the *a:ɔ* percentage of *a:a+a:ɔ+ɔ:ɔ* rhymes, by 3% in the tenth century and 1.4% in the eleventh century but by nothing in the second half of the twelfth century.

4 A:ɔ rhymes in poems

Using the same data sets as used for Tables 2 and 3 the picture presented in Table 1 changes, and the difference between the tenth century and the eleventh century becomes clearer. Rhymes with /ja/ and /j̥ɔ/ (in Table 4) are not included in Table 5, below.

Table 5: Number of rhyme-pairs of *a* and *ɔ* in poems¹³

	<i>a:a</i>	<i>ɔ:ɔ</i>	<i>a:ɔ</i>	<i>a:ɔ</i> percentage of <i>a:a+ɔ:ɔ+a:ɔ</i>	<i>a:ɔ</i> percentage of total rhymes
Until CE 1000	76	9	27	24%	5.12%
CE 1000–1100	161	44	28	12%	2.00%
CE 1150–1200	128	17	4	2.7%	0.42%

The main difference between Table 1 and Table 5 is that the percentage in the tenth century is twice that of the eleventh century (24% vs. 12%), while the difference is modest in Table 1 (16% vs. 12%). This change is

13. I follow Myrvoll (2014) who deviates from Finnur Jónsson's edition with *Mǫrnar* for *Marnar* in *Haustlǫng* 12.8, and with *sann* for *sonn* in *Þorgeirsdrápa* 11.6 by Þormóðr.

mainly because of the different sets of data and not because of the separate treatment of rhymes with /ja/ and /jɔ/ (its effect is relatively small—see end of Section 3). The gradual disappearance of the *a:ɔ* rhymes is apparent and significant¹⁴ in Table 5. The trend is opposite to that for the *a:ja* rhymes. Before the year 1000, it is possible that /a/ and /ɔ/ were regarded as one metrical unit, but in the eleventh century and later, their rhyme was clearly not as strong as previously.

5 *Á:ɔ* rhymes in poems

Traditionally, it is assumed that Old Norse rhyme does not provide any information on the phoneme /ǫ/, the u-umlaut of /á/, because it rhymed with /á/ until /ǫ/ merged with its “parent” /á/ around the year 1200.¹⁵

To test if *á:ǫ* rhymes were partly avoided, I prepared Table 6. I used the same data sets again, but I added the ecclesial poem *Líknarbraut*¹⁶ from the thirteenth century, which has 52 stanzas and 208 rhymes.

Table 6: Number of rhyme-pairs of *á* and *ǫ* in poems¹⁷

	<i>á:á</i>	<i>ǫ:ǫ</i>	<i>á:ǫ</i>	<i>á:ǫ</i> percentage of <i>á:á + ǫ:ǫ + á:ǫ</i>	<i>á:ǫ</i> percentage of total rhymes
Until CE 1000	13	2	11	42.3%	2.09%
CE 1000–1100	43	23	20	23%	1.43%
CE 1150–1200	22	9	5	13.9 %	0.52%
<i>Líknarbraut</i>	6	1	5	41.7%	2.40%

14. The difference between the proportions in the tenth and eleventh centuries is statistically highly significant, with $P = 0.0003 < 0.01$, comparing 5.12% ($N = 527$) to 2.00% ($N = 1401$). The difference between the proportions in the eleventh and twelfth centuries is also statistically significant, with $P = 0.0011 < 0.01$, comparing 2.00% ($N = 1401$) to 0.42 % ($N = 960$), using MedCalc.
15. Hreinn Benediktsson (1972: 121) said this merger “probably began in the late twelfth century, and was completed probably in the course of the early thirteenth century.”
16. Finnur Jónsson’s edition distinguishes between *á* and *ǫ* in *Líknarbraut*, even if it was composed after *á* and *ǫ* merged. Table 6 takes note of this.
17. Editors have inserted *ǫ* where appropriate. I follow Finnur Jónsson’s 1912–1915 edition, except I follow Myrvoll in using *gránehott* for *grǫnehott* in *Pórsdrápa* 15.8.

The numbers of rhymes are much smaller for /á/ than for /a/ and the statistical power is less. There appears to be a gradual reduction in the frequency of á:ǫ rhymes until the twelfth century. The numbers are, however, too small for the decrease between the tenth and the eleventh centuries to be statistically significant.¹⁸ The decrease between the tenth century and the second half of the twelfth century is, however, significant,¹⁹ and so is the increase between the twelfth century and *Líknaþbraut* in the thirteenth century.²⁰

The immediate reappearance of á:ǫ rhymes in *Líknaþbraut* needs not be suspect. When /ǫ/ and /á/ split from each other, it was possible for poets to continue for some time to treat these phonemes as metrically equivalent. When these phonemes merged, on the other hand, it immediately became impossible for poets to keep them distinct.

I have two caveats to the conclusion that the rhyme of ǫ and á was avoided to some degree in the second half of the twelfth century. One caveat concerns the uncertainty regarding which words had an ǫ. This affects the spelling of the name *Áleifr/Óláfr*, which appears often in the poems of the eleventh century. Here I did not follow Finnur Jónsson, who uses *Ál-*, while *SkP* uses *Ól-*.²¹ I also followed *SkP* in using *hǫla* instead of *hála*. It is a reduced form of *hálega* ‘highly,’ which has a spelling with *o* and *ǫ* in early texts (see *ONP*). When comparing the tenth and the twelfth centuries, this has little effect. For the twelfth century, both Finnur Jónsson and *SkP* believed that stanza 3 in *Harmsól* has the rhyme-pair *án : hǫnum*, but I believe it is proper to use the form *ǫn* ‘without’, a form attested in manuscripts and in accordance with the word’s etymology.

My second caveat concerns the phoneme /ǫ/ and its nasal counterpart /ǫ̃/, which also is a phoneme, but both are denoted in poetic editions by

18. The difference between the proportions in the tenth and eleventh centuries is **not** statistically significant, with $P = 0.3050 > 0.05$, comparing 2.09% ($N = 527$) to 1.43% ($N = 1401$), using MedCalc.
19. The difference between the proportions in the tenth century and the second half of the twelfth century is statistically significant, with $P = 0.005 < 0.01$, comparing 2.09% ($N = 527$) to 0.52% ($N = 960$), using MedCalc.
20. The difference between the proportions in the second half of the twelfth century and the thirteenth century (*Líknaþbraut*) is statistically significant, with $P = 0.008 < 0.01$, comparing 0.52% ($N = 960$) to 2.40% ($N = 208$).
21. The onset vowel derives from the Proto-Nordic **Anu-* and would have been a nasal *Ó-* and eventually have become *Ó-*; Noreen (1923: § 116).

an *ǫ*. The nasal /*ǫ̃*/ merged with /*ó*/ while the oral /*ǫ*/ merged with /*á*/. For a more accurate study of these phonemes, Table 6 should be split into two tables—one for /*ǫ̃*/ and another for /*ǫ*/. It is conceivable that *á:ǫ̃* rhymes with the nasal phoneme were the only ones that were avoided. This is, however, not likely, as seen by a closer look at the data set from the twelfth century. It consists of four long ecclesial poems, generally believed to be from the second half of the twelfth century based on their similarities and because they refer to each other. One of these (*Geisli*) is known to have been recited in 1153, and another (*Plácitusdrápa*) must be from the year 1200 or earlier because of the date of the manuscript that preserves it. Of the five instances of the *á:ǫ̃* rhyme, four are from the poem *Harmsól*. Two poems, *Plácitusdrápa* and *Leiðarvísan*, do not have an *á:ǫ̃* rhyme.²² They are long poems and the absence of the *á:ǫ̃* rhyme is unlikely to be a coincidence. The poem *Geisli* has only one *á:ǫ̃* rhyme involving the name *Óláfr*, which elsewhere in the poem rhymes with /*ó*/. This rhyme seems, therefore, to be an archaism or inspired by rhymes with this name in earlier poems—at the very least it is not usual. The poem *Harmsól* may be incorrectly dated and belong, with *Líknarbraut*, to the thirteenth century. However, even if it was contemporary to the three other poems, the poet could have chosen to ignore the distinction between /*á*/ and /*ǫ̃*/, while it would have been nearly impossible to fully avoid *á:ǫ̃* rhymes in the other three long poems, unless /*á*/ and /*ǫ̃*/ were distinguishable. Therefore, these poems provide an opposition between /*á*/ and /*ǫ̃*/.

6 *E:ja* rhymes

In Table 2, I did not include the following *e:ja* rhyme in *vez : Þjaza* from the poem *Haustlǫng*:

Þjóðolfr ór Hvini, *Haustlǫng* 1.8 Hildar vez ok Þjaza c. year 900

22. The *SkP* edition has six *á:ǫ̃* rhymes in *Harmsól*, but this is due to a mistake with the word *tárum* (instead of *tǫrum*) in *Harmsól* 52.4 and because of the rhyme *án : hǫnum* discussed here. *SkP* has no *á:ǫ̃* rhymes in *Leiðarvísan* and *Plácitusdrápa*.

The text above is as it is in the manuscripts.²³ Kuhn (1983: 46) lists this line with two others that have an *e:ja* rhyme:

Þjóðolfr ór Hvini, *lausavísur* 2.8 veðr; nús brim fyr Jaðri c. year 900
 Egill Skallagrímsson, *Skjaldardrápa* 1.8 jarðgróins mér verða c. year 970

Breaking of /e/ does not occur after /v/; nevertheless, Kuhn says that such breaking must have occurred here. He supports this by noting the existence of three well-known runic inscriptions, all of whom could be from the tenth century. These have <via > for *ve* in the words *verðan*, *Nor-veg*, and *ver*. The first is on the Glavendrup stone, the second is on the smaller Jelling stone, and the third is on the Sædinge stone.²⁴

The tenth-century data set has one more *e:ja* rhyme:

Kormákr, Sigurðardrápa 6.4 fets; véltu goð Þjaza c. years 955–970

This line may be modeled on the line by Þórólfr in *Haustlǫng* (both use the name *Þjaza*).

It is reasonable to assume that the breaking of /ve/ into /vja/ was inhibited by the formation of a cluster, **vj*, with two consonants of similar sonority. However, the first step of the breaking may have been taken (with *i* in the runic <via> still being a vowel) before this inhibition reverted the process.²⁵ This would explain the runic inscriptions and the *ve:ja* rhymes. It would also make these rhymes instances of *ja:ja* rhymes rather than of *a:ja* rhymes.

Rules that forbid breaking after /v/, /r/, and /l/ set up a neutralizing environment for /a/ and the diphthong /ja/ (words with **vja-*, **rja-* and **lja-* do not exist, except in unstressed positions). For /ó/ and /jó/, there is no such environment (words with *rjó-* and *ljó-* do exist, and there are

23. *Haustlǫng* is well preserved in Snorra-Edda. Three independent manuscripts (called R, T, and W in editions) have the rhyme *vez : þiaza* (so spelled). Þjóðolfr's *lausavísa* is also well preserved in several manuscripts of *Heimskringla*. Metrical lines (3) and (4) are, however, only preserved in one manuscript.

24. Spelling of runic inscriptions is very variable. This evidence is thus weaker than the evidence from the rhymes.

25. Myrvoll (2020: 233, footnote 52) rejects Kuhn's explanation, for the phonotactic reason that **vja-* is not possible.

no **vó-* words), which may explain why they were kept separate for longer in rhyme, as discussed in the next section.

7 Ó:jó and ú:jú rhymes in poems

The diphthong phoneme /eu/ became *jó* in Old Norse. It has been assumed that *jó* versus *ó* rhymed freely in extant Old Norse poetry, but this is not the case.²⁶ To investigate when this rhyme became usual, I add, in Table 7, a data set of ecclesial poems from the fourteenth century. These are *Lilja* (404), *Guðmundardrápa* by Abbot Árni Jónsson (316), *Guðmundardrápa* by Abbot Arngrímr Brandsson (264), and *Guðmundarkvaði* by Einarr Gilsson (160). The total number of rhymes is 1144.

Eventually, in most environments, /jój/ became *jó*, but in others it became *jú*. I ignore this detail. In Table 7, I include *jú:jú* rhymes with *jó:jó* rhymes (both are /eu/:/eu/ rhymes) and I include *ú:jú* rhymes with *ó:jó* rhymes.

Table 7: Number of rhyme-pairs of /ó/ and /jó/ in poems

	ó:ó	jó:jó	ó:jó	ó:jó percentage of ó:ó + jó:jó + ó:jó	ó:jó percentage of total rhymes
Until CE 1000	33	12	(1)	(2.8%)	(0.19%)
CE 1000–1100	75	24	4	4%	0.29%
CE 1150–1200	74	11	19	18%	1.98%
<i>Liknarbraut</i> 13c.	13	3	6	27%	2.88%
CE 1300–1400	54	9	35	36%	3.06%

Only one *ó:jó* rhyme appears before year 1000, in *Máhlíðingavísur* 16.6.²⁷ I also note that four out of the eleven *a:ja* rhymes in Table 3 are from

26. The absence of the *ó:jó* rhyme in poems of the tenth century was noted by the author, who, together with Haukur Þorgeirsson, gave a lecture on it at the Rask conference in Reykjavík in 2016. Haukur Þorgeirsson gave a lecture on its implications for the authenticity of *lausavísur* at the International Saga Conference 2018. The current article is the first on the subject.

27. The *lausavísur* that I excluded from the data set for the tenth century by Eyvindr, Gísli, Egill, and Kormákr have one or more instances of *ó:jó* rhymes for each of these poets.

Máhlíðingavísur. This suggests that *Máhlíðingavísur* is not an authentic tenth-century work (therefore I put the number 1, and the calculated percentages, within parentheses).²⁸

Only four *ó:jó* rhymes are in the large data set of rhymes from the eleventh century, but they seem to be genuine. *The First Grammatical Treatise* was written around the middle of the twelfth century. It says that the /j/ in *jór* ‘horse’ is a consonant rather than a vowel (Hreinn Benediktsson 1972: 223) and this seems to be confirmed by how freely *jó* and *ó* rhyme after c. 1150 as compared to earlier centuries. Even if the percentages of *ó:jó* rhymes are lower in the twelfth century than in the following centuries, the difference is not statistically significant. There may, nevertheless, have been some reluctance to accept the *ó:jó* rhyme during the period when /j/ was treated as a vowel in alliteration.²⁹

8 A discussion on the findings

My objective with this article was to show that so-called inaccurate rhymes reveal information about phonemes in early Old Norse, thus increasing the relevance of rhyme for the study of Old Norse phonology. I excluded *lausavísur* from my study to get more reliable results and I have investigated rhymes with /ja/, /jǫ/, and /jó/ separately. A major finding with this approach is that rhymes with the phoneme /ǫ/ versus the phoneme /a/ were largely avoided in poems in the eleventh and the twelfth centuries, and the same applies to the phoneme /ó/ versus the phoneme /á/ in the second half of the twelfth century. A second major finding is that rhyming /ja/ with /a/ was largely avoided in the tenth century. The rhyming of /jǫ/ with /ǫ/ was likely avoided as well. A third major finding is that the /jó/ and /ó/ rhyme did not occur at all in the tenth century, and their rhyming was heavily avoided in the following century.

28. *Máhlíðingavísur* ‘stanzas of the people from Máhlíð’ have one *ó:jó* rhyme and four *a:ja* rhymes. Additionally, they do not have any *a:ǫ* rhymes and they stand out for not having any *um/of* filler words (see table by Leiv Olsen 2020: 174). All of this indicates that they are not authentic.

29. Haukur Þorgeirsson (2013: 358) reviews the data on alliteration in his PhD thesis. He says in his English summary: “The decrease in frequency of j-vowel alliteration turns out to be gradual. The 14th century may have the highest rate of change.”

The findings on the rising diphthongs were unexpected, but they seem not to conflict with older research; they only add new information. The diphthongs *ja* and *jɔ* derived from /e/, while *jó* derived from /eu/. Initially, they were not the sequence of separate phonemes that they later became, which seems confirmed by their rhyme.

The First Grammatical Treatise, written around 1150, describes /ɔ/ and /ǫ/ as phonemes distinct from /a/ and /á/. They are represented as distinct in early orthography, but for /ǫ/ this lasted only a short while, until around 1200, before it merged with /á/, while the short /ɔ/ merged with /ø/. Linguists have believed that rhyme in Old Norse poetry did not support an opposition between /ɔ/ and /a/, and /ǫ/ and /á/. By largely avoiding *a:ɔ* and *á:ǫ* rhymes, however, the poetry does provide these oppositions in the second half of the twelfth century, (and earlier for /a/ versus /ɔ/), even if indirectly.

Even if I have shown that inaccurate rhymes were avoided to some extent, Hreinn Benediktsson's theory is not proven wrong with regard to which phonemes allowed inaccurate rhymes between them and which did not. The rarity of *ɔ:ja* and *a:jɔ* rhymes seems to fit his theory well (see end of Section 3). The late arrival of *ó:jó* rhymes as compared to *a:ja* rhymes may fit it also (see end of Section 6).

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Sammenfatning

I denne artikel diskuteres såkaldte unøjagtige rim i oldnordisk *dróttkvætt*-poesi og deres betydning for den oldnordiske fonemstruktur. Unøjagtige rim mellem /o/ og /a/ forekommer, men blev til en vis grad undgået i oldnordiske digte i det ellefte og det tolvte århundrede. Det samme gælder rim mellem /ǫ/ og /á/ i anden halvdel af det tolvte århundrede. Denne undgåelse bekræfter /ǫ/s status som et fonem ved indirekte at give en modsætning mellem /á/ og /ǫ/. Ydermere blev rim mellem diftongen /ja/ og vokalen /a/ brugt sjældent i det tiende århundrede, og rim mellem diftongen /jó/ og vokalen /ó/ blev slet ikke anvendt. /ja/ og /jó/ blev således ikke behandlet som en sekvens af en konsonant /j/ og en efterfølgende vokal på dette tidlige stadium av det norrøne sprog.

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