

KRISTJÁN ÁRNASON

On the principles of Nordic rhyme and alliteration

1 Introduction and some theoretical preliminaries

The most important innovations in Nordic poetry relative to West Germanic were the introduction of stanzaic structure into the eddic forms and the creation of skaldic forms like the *dróttkvætt*. (See Kristján Árnason 2006; For studies of *dróttkvætt*, see e.g.: Kuhn 1983, Gade 1995, Kristján Árnason 1991/2000.) Among the characteristics

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Abstract: This article examines the relation between alliteration and inrhyme (the hendings) in the Old Icelandic *dróttkvætt* metre from a linguistic and metrical point of view. It is shown that the two rhyming schemes are relevant to the constituent structure of the *dróttkvætt* stanza, communicating lines and line couplets. The relation of the rhyming schemes to rhythm and alternation between strong and weak positions is less clear. Although the linguistic and metrical principles of the rhyming schemes are different, alliteration being word initial, the hendings word medial, there are interesting similarities as regards the principles of language-metre mapping. It is shown that in both alliteration and the hendings, the connection between the rhyming positions is based on the non-distinctness of sonority minima in syllabic onsets and interludes. This means not only that non-distinct sounds are metrically equivalent, but also that "empty" onsets give rise to alliteration of vowel initial words. Similarly, "empty" interludes, with a sort of hiatus or semi-vocalic glide between syllables, give hendings without the participation of consonants. In this interpretation it is understandable that the clusters *sp*, *st*, *sk* only alliterate with themselves; the stops form sonority minima which cannot be ignored in alliteration. Similar constraints are valid for the intervocalic clusters in the hendings. In the word based rhythm of eddic, only word onsets were "visible", but in the syllabic rhythm of *dróttkvætt* the interludes between syllables were also visible, which opened the way for the invention of the hendings. This view on the similarities and differences between the two rhyming schemes make it unnecessary to assume foreign influence in the development of the hendings in skaldic forms.

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of the *dróttkvætt* were the so-called *hendingar* or in-rhyme, which are used along with alliteration and other very elaborate poetic means to create an intricate structure of rhythm and rhyme. The *dróttkvætt* form is illustrated in the following half stanza, ascribed to the poet Þormóðr Kolbrúnarskáld at the battle of Stiklastaðir, where he and his king Ólafr Haraldsson were killed:

- (1) *Undrask* *øglis landa*
eik hví vér'rum *bleikir*;
fár verðr *fagr* af *sörum*,
fann'k *örvadrif*, *svanni*.

The lady wonders why we are pale; few people become more handsome from being wounded; I found a shower of arrows, my lady.

(Þormóðr Kolbrúnarskáld, *lausavísa* 25)

The hemistich is further divided into couplets, bound together by alliteration. There are two alliterating staves (the *stuðlar* 'supports') in the first line and one (the *höfuðstafur* 'the head staff') in the second of the couplet. The staves are presented in boldface in our example. The inrhyme (written in italics) involves two stressed syllables in each line; in the first line the consonants are the same but the vowels different, forming a sort of consonance (*und-* : *land-*; *fár* : *sör-*), called *skothendingar* 'skewed rhyme' but in the second line, both the vowel and the following consonants match (*eik* : *bleik-*; *fann* : *svann*), and these are called *aðalhendingar* 'main rhyme'. The *hendingar* (henceforth called *hendings*) then form line internal rhyming constructions, and thus emphasise the line as a unit. And they also contribute to the definition of the line couplet, creating a connection between the first and the second line by the rule of alternation between assonance or half rhyme (the *skothendingar*) and the full rhyme (the *aðalhendingar*).

The question of the origin of the inrhyme and its historical and formal relation to alliteration has been much discussed by linguists and philologists. Two lines of thought can be said to have been most prominent in the discussion of the problem of origin. One theory is that the rhyme developed under foreign (in particular Irish) influence, and the other is that the *hendings* were a domestic invention and developed inherently in the Old Norse literature. (See discussion and references to earlier work in Mackenzie 1981 and Kristján Árnason 1987.)

The purpose of this paper is to look at the similarities and differences between alliteration and the *hendings* and to study the coexistence of

these rhyming schemes in the Old Icelandic poetic tradition. We will try to make this coexistence understandable in the context of Nordic, and in particular skaldic, poetry. It will be proposed that the hendings are an innovation which could well have developed inherently, not as some learned imitation of foreign forms, but as a natural outgrowth (as things go in metrical development) of the inherited alliterative principles. This involved an elaboration of the rules for alliteration in the setting of a new type of rhythm, which was one of the basic characteristics of skaldic poetry.

2 Linguistic and metrical units and relations

Before we start our analysis of Nordic alliteration and rhyme, it is necessary to make some points of clarification concerning the character of metrical forms and their relation to linguistic forms. We will also in this section make some general remarks on the function of rhyme and alliteration in metrical structure.

2.1 Language and metre

It is important to distinguish clearly between metrical patterns and linguistic patterns in a poetic text. Metrical systems are what have been called 'overlay systems', they are meta-linguistic, involving some 'analysis' of language, and have features in common with phenomena like word play, secret languages and writing systems (see Zwicky 1986). Metrical structure (comprising things like strong or weak positions, lines and stanzas) and linguistic structure (comprising phonological or syntactic units like segment, syllable, sentence and phrase) thus exist on separate levels. But they are obviously related, and the linguistic and metrical constraints apply simultaneously to the poetic texts.

The double-existence of poetic texts has been studied for decades by linguists in the tradition of generative metrics. (See e.g. Halle and Keyser 1971, Hayes 1983, Keyser 1969, Kiparsky 1977, Fabb 2002, Dresher and Friedberg (eds.) 2006.) Much of the work within this framework has been concerned with rhythm, and how the rhythmical or prosodic characteristics of language correlate with those of poetry, but less attention has been paid to rhyme and alliteration. (For notable exceptions, see Fabb 1999 and Minkova 2003.) However, questions relating to the nature of the mapping between metre and language are no less

interesting when it comes to rhyme and alliteration. In the same way as the rhythmic characteristics of poetic texts have to be accounted for by reference to both linguistic entities (syllables and stresses, words and phrases), and metrical entities (lifts and lows, lines and stanzas), the rules for alliteration and rhyme involve both linguistic and metrical entities. They are defined with respect to linguistic properties of segments and positions (onsets or rhymes) in phonological words, and the relevant poetic criteria are set in terms of units and positions in lines and stanzas of metres like the eddic *fornyrðislag* or the skaldic *dróttkvætt*.

2.2 Rhythm and constituency in metre

The basic structural characteristics of poetic forms are defined in terms of rhythm and constituency. Thus a metrical line can be described as a constituent, which has a predefined number of syllables and a particular pattern of rhythmic alternation. This sort of structure can be analysed by generative means. In syllable counting, when a certain number of syllables is reached (say 10 with some allowance for variation), the line ends, and if the alternation of strong and weak syllables corresponds to a right strong (iambic) scansion or metrical mapping, the line satisfies the form of iambic pentameter (cf. e.g. Fabb 2002: 34–56 for a recent treatment of English metres). Smaller units like feet and cola may form sub-constituents of lines, and lines may combine to form larger constituents, such as couplets and quatrains or other types of stanza. A typical description of a metre is thus in terms of the number of constituents (feet and lines), and the type of rhythm (iambic or trochaic, quantitative or stress based).

Genres vary with respect to constituent structure; for example, a significant difference between the eddic poems and old West Germanic poetry lies, as mentioned above, in the fact that the former has clear stanzaic structure, most clearly marked in the *ljóðaháttir*, and the latter is “stichic” in that the next lower constituent of structure (after “poem”) is the line. The constituent structure of metrical forms is identified or communicated in several ways, for example by repetition and truncation. In the *ljóðaháttir* form, which is basically a quatrain of two couplets, the end of each couplet is marked by truncation, i.e. skipping the last foot of the long line (see Heusler 1889/1969, Kristján Árnason 2006). But rhyme is also important in defining the metrical constituents, as e.g. shown by the common use of end-rhyme.

2.3 Units and positions in alliteration and rhyme

Metrical structure thus involves repetition of similar or equivalent forms (lifts and dips, lines and cola) according to principles or metrical conventions defined with reference to linguistic units. These principles call for some sort of means of identifying the relevant forms both linguistically (as regards e.g. stress) and metrically (as regards strong or weak positions).

In the case of alliteration and rhyme, the metrical analysis involves identifying the rhyming **units** (what rhymes?), and the rules for where these forms should occur in the text, the **positions** (where do the rhyming and alliterating forms occur?). And because of the double existence of metrical texts, these units and positions are defined on two levels, on one hand as metrical units and positions and on the other as linguistic units and positions. For Germanic alliteration we can say roughly that the linguistic position of alliteration is in the onset of the stressed syllable of a word, and the linguistic units referred to are the sounds or phonemes, which occur in that position.

For the metrical side of alliteration, traditional Icelandic terminology defines **metrical positions** as the *höfuðstafr* 'the head stave', which occurs (typically) at the beginning of the first lift of the second colon (which is the penultimate strong position in the line) in the *fornyrðislag* and must be matched by an equivalent (or non-distinct, cf. below) onset in at least one of the lifts of the first colon (the a-verse), called the *stuðlar* 'supports', as in (2). This is the most important feature of poetic metre according to medieval scholarship in Iceland, cf. Snorri Sturluson. *Edda. Háttatal* 1999: 4; Óláfr Þórðarson. *Málhljóða og mál-skrúðsrit* 1927: 96.

- (2) Hljóðs bið ek allar / helgar kindir;
 Meiri ok minni / mögu Hemdallar
 I ask for attention all holy creatures, greater and lesser descendants of
 Heimdall.
 (Völuspá 1,1-4)

Here the /h/ of *helgar* and the /m/ of *mögu* function as head staves in the b-verse of each line, matched respectively by one and two supports in the a-verse.

The **metrical units** active in alliteration are the equivalence classes, which define what alliterates with what. A simplistic statement is that each sound alliterates with itself, but there are well known complica-

tions, e.g. so that all vowels alliterate, and clusters of s+stop (*sp, st, sk*) only alliterate with themselves.

The hendings, which only occur in the *dróttkvætt*, are also defined in terms of units and positions, which have a metrical side and a linguistic side. The units on the metrical side of the inrhyme are, like in alliteration, the equivalence classes, which define the classes of sounds that serve as equivalent (or non-distinct) for the purposes of rhyme, and we shall see again that although the general principle is that the metrical classes correspond to natural linguistic units, i.e. phonemes and sequences of phonemes, there are interesting complications in those relations also in the case of the hendings. There are also rules governing the positions (both linguistic and metrical) relevant for the hendings, which we will investigate as we move along.

2.4 The function of rhyme and alliteration: rhyming constructions

But what is the function of rhyme and alliteration as part of the poetic form; what “purpose” (poetic or other) do they serve in the text, relative to other formal characteristics? We will assume that alliteration serves the purpose of communicating (in a special sense) constituency in metre. (According to Fabb (1999), all texts can have ‘communicated’ form on top of their ‘inherent’ form. The communicated form of a text is expressed by signals, which the text itself uses explicitly to give the reader or listener information about itself.) That is to say, alliteration and rhyme are used as additional signals to show which parts of the text belong together in lines or stanzas. Understood in this way, a feature like alliteration is not essential to the rhythm of the text as expressed in terms of weak and strong positions. Its function is, rather, to mark or communicate the constituency, i.e. the line and colon structure of the text. The function is fulfilled by interdependent and matching units, which form what we may call **rhyming constructions**.

One feature of the constructions formed by alliteration and rhyme, which tallies with this interpretation, is the fact that they seem to be right-headed in a sense similar to the conception used in linguistics to describe phonological or syntactic constructions. (A right-headed linguistic constituent has a structure which centres around the last participant in the relation.) We saw that, in traditional Icelandic metrical terminology, the last of the two or three alliterating staves is called the

head stave (*höfuðstafr*), and the ones that precede are called the supports. This terminology implies that the most important of the staves is the last one, which closes the construction, i.e. tells us that the end is near. In this way the supports which precede are in a way governed or licensed by the following head stave somewhat like syntactic or phonological forms may be governed by their following stronger sisters. The end of the constituent is staked out, so to speak, by the final stave, and the preceding staves identify its domain to the left.

We will argue below (Section 5), that the hending constructions had the same sort of right-headed structure. Practically without exception, the fixed position for the second member of the hending relation is the penultimate position in the *dróttkvætt* line. We will refer to this position as the **head** of the rhyme construction, echoing the definition of the last participant in the alliterating relation as the head stave. The rhyme, which matches the head rhyme earlier in the line, may then be called a **supporting rhyme**, like the alliterating supports match the head-stave. This terminology involves a slight contradiction against Snorri Sturluson's usage in the commentary to his *Háttatal*. Snorri calls the first member of the hending relation the *frumhending* 'the first hending', but the second is called the *virðrhending* 'the attached hending'. But it seems that this is harmless; referring to the sequential order to identify the two members by such terminology does not contradict the point made here about the functional relation between the head (which might have been called *höfuðhending* in Icelandic) and the support (which might be called *stöðhending* in Icelandic).

Seen in this way, alliteration and rhyme help to define which parts of the text belong together as constituents. The alliterating staves define the long line of eddic poetry as a unit, and at the same time, by the rules of distribution, serve to identify their component half lines or short lines. Similarly the hendings help to communicate the *dróttkvætt* line as a unit, and the alternation between half rhyme (*skothendingar*) and full rhyme (*aðalhendingar*) establishes a sort of relation (gravitating toward the end) between the odd and even numbered lines. In the same vein it can be said that end-rhyme, which is perhaps the best known sort of rhyme, has the function of marking line ends, but at the same time binding together the lines which rhyme.

In the light of this interpretation, it is unnecessary to assume, as is sometimes done, that the positions where alliteration or rhyme occur are necessarily stronger or have to be emphasised more heavily

in performance than corresponding positions, which do not take part in these relations. These phenomena are as such not essential to the poetic rhythm, since metrical alternation between strong and weak positions is defined independently in terms of other parameters.

But we will see below that although the rhyming characteristics as such are not essential to the alternation between strong and weak positions, the rhyming and alliterating units are typically placed in rhythmically strong (not weak) position in the text. It can thus be said that alliteration and rhyme depend on the rhythm, but that the rhythm does not depend on rhyme and alliteration. And it can also be said that the rhyming positions are in some sense more prominent in the text by virtue of their rhymes, without being rhythmically stronger.

2.5 Naïve metrics and learned metrics

The preceding sections show that metrical and linguistic constraints have to be kept apart and that metrical properties may serve more than one type of function. This means that in the study of the relation between language and metre it is necessary to keep in mind the indirect nature of the mapping between language and metre. But there is an additional complication in the relation between language and metre in that metrical competence (both the skill of the poet and the appreciation by the audience), being meta-linguistic, can vary on a scale which we may call **learning**.

Many of the features of poetry are practised and appreciated unconsciously without the poet or audience necessarily being able to explain or explicate why one particular line is metrical and another one is not. But often the skill becomes conscious and learned. In particular, when the metrist and the poet are one and the same person, as was the case when Snorri Sturluson composed his *Háttatal* or *clavis metrica*, with commentaries and explanations of the workings of the metres. We may thus have to distinguish between Snorri's metrical learning ("metametrical performance") and the actual composition of texts (or "metrical performance").

To illustrate this point we note that among Snorri's learned statements is the comment in *Háttatal* that in the hendings all consonants following the vowel are the same. This is true of a clear majority of instances of the rhyme, as e.g. the following line from the first stanza of his *Háttatal*:

- (3) *friðrofs konungr ofsa*
peace-breach-GEN, king, rage
(Snorri Sturluson. *Edda. Háttatal* 1999: 4)

But in the light of examples like (4), where some consonants following the vowel are ignored in the rhyming relation, we have to take this dictum with a grain of salt.

- (4) *Ólafs mágr svá't úgði* (Sighvatr, *Flokkur um Erling Skjálgsson* 9,3)
Ólaf's relative, so that frightened

Similarly, Snorri's comment, that vowel alliteration is more beautiful when the vowels participating have different qualities, must be seen as meta-metrical. In fact many of his learned statements can only be taken as indirect evidence for our analysis, if only for the fact that his theoretical tools and linguistic terminology were different and (we hope) more primitive than what we now have.

It will not be assumed in the discussion below that such "learned" or conscious metrics was a driving factor in the invention of the hendings as a formal characteristic in Nordic poetry. We should preferably see the conditions under which the hendings developed as natural, rather than in an atmosphere of academic learning and highly conscious analysis, although we cannot exclude the possibility that some such "learned" effects had an influence on the development and on the practice of some poets.

3 The linguistic and metrical conditions for alliteration

In this section, a unified account of the linguistic and metrical conditions of alliteration (including vowel alliteration and alliteration of clusters of s+stop) will be proposed. It will be maintained that the linguistic place of relevance for alliteration was the **sonority minimum of the onset of the alliterating word**. Sonority minimum is defined as the weakest or least syllabic place in the onset.

3.1 Clusters and empty onsets

A first approximation of the linguistic unit of relevance in alliteration is, as we have seen, the "onset of the first syllable of a phonological

word". In many cases it looks like the onset as a whole participates, as in (5):

- (5) sins of freista frama
to try ones fortune
(Hávamál 2,6)

But this is clearly optional, since sometimes only the first consonant alliterates, as in (6):

- (6) Sungu ok slungu / snúðga steini
[They] sang and swung the turning stone [the mill]
(Gróttasöngur, 4,1–2)
gráðugr halr / nema geðs viti
a greedy man, unless he has some sense
(Hávamál 20,1–2)

At the same time it is well known that clusters of *sp*, *st*, and *sk* only alliterate with themselves, as in (7):

- (7) (Gáttir allar áðr gangi fram)
um skoðask skyli
um skyggnask skyli
All doors, before proceeding, should be inspected and looked through
(Hávamál 1,1–4)

There are no examples of /s/ in such clusters alliterating with /s/ in different clusters or with a single /s/. The same principles apply in other old Germanic poetry, including Old English and to a large extent in Middle English (see Minkova 2003: 199–202). And basically the same rules apply in modern Icelandic versification, which defines the alliterating clusters /sp-, st-, sk-/ as *gnýstuðlar* ‘rumbling staves’.

Another well-known peculiarity in Germanic alliteration is vowel alliteration, as in:

- (8) Ormr knýr unnir / en ari hlakkar;
The worm beats the waves, but the eagle rejoices;
(Völuspá 47, 5–6)

In this line, different vowels alliterate: *ormr*, ‘worm’, *unnir* ‘waves’ and *ari* ‘eagle’. This is also regular in other old Germanic alliterative poetry, as well as later Icelandic poetry. The vowel alliteration is all the more interesting in view of the fact that alliteration seems to be funda-

mentally a consonantal rhyme or a sort of consonance, and yet in these examples the alliteration is based on the *absence* of a consonant.

3.2 Explaining the vowel alliteration

Several proposals have been put forth to explain vowel alliteration. One theory is that it goes back to Proto-Germanic times when there were fewer vowel qualities in the system. The idea is that at that stage, only identical vowels alliterated, but that the umlaut developments, leading to large-scale phonemic splits, caused different phonemes to form equivalence classes on the basis of their origin. This then caused some sort of chaos, with the final result that all vowels became one equivalence class.

Another theory is that a glottal stop ('*Scharfer Vokaleinsatz*' '*spiritus lenis*' (as opposed to '*spiritus asper*', i.e. [h]) at the beginning of stressed syllables carried the relation. The occurrence of a glottal onset in stressed syllables which (phonotactically) start with a vowel (in other words have an empty onset) is a well known phenomenon, occurring e.g. in Modern German and Modern Icelandic, and it is quite conceivable that this occurred at earlier stages in Germanic and Nordic. Minkova (2003: 145–165) argues that phenomena in Old English, such as the absence of elision before stressed vowel initial syllables and 'inorganic <h> supplies indirect evidence of the presence of a glottal onset in Old English. However, there is no independent evidence for the presence of this phenomenon in Old Icelandic. And furthermore, using the glottal stop to explain metricality is not as simple as it seems.

If we look at Modern Icelandic, we find that, like in German (and some other languages, such as Old English), the glottal stop appears optionally (depending on stress) at the beginning of a stressed syllable with an otherwise empty onset. The same metrical rules apply in the modern as in the older poetry, so that all vowels alliterate. But if the presence of a glottal stop was a necessary condition for alliteration, this would mean that lines like (9) from the well known Icelandic quatrain by the 19th century poet Kristján Jónsson are unmetrical without consistently inserting a glottal stop in each position of alliteration:

- (9) Yfir kaldan eyðisand / einn um nótt ég sveima
Over the desert sand I stray alone at night

The fact is, however, that the lines are metrical irrespective of the way they are performed, and they are often recited without the glot-

tal onset. We see, then, that the metricality of the alliteration does not hinge on the phonetic realisation of the glottal closure. (This is not denying that a glottal onset, if it was present in the language (Old Icelandic or Old Germanic in general), might have helped to identify the alliterating onsets in performance.)

A third proposal for an explanation of vowel alliteration is that what rhymed was the empty onset as such or the structural position, which can optionally be realised by a glottal stop. In this interpretation the rhyming correspondence in poetic texts is established at a more abstract level than the phonetic one or actual pronunciation. The rhyming relation is then not based on phonetic identity, but on **non-distinctness** in the relevant position. In other words, the rhyme is secured, as long as the matching positions are not occupied by a unit belonging to **different** equivalence classes. This is a very important point.

3.3 The s+stop alliteration: the sonority minimum

Turning back to consonantal alliteration, we saw that the whole onset, defined as a position including all consonants preceding the vowel, cannot be taken as the linguistic position of alliteration, since parts of it can be ignored, namely a more sonorous segment closer to the nucleus, as illustrated by the examples in (6). In these cases the alliteration seems to be based on individual segments. But still the s+stop clusters alliterate as a whole, and in vowel alliteration (empty onsets), alliteration also seems to involve the onset as such, and not to be based on the properties of individual segments. There seems to be a contradiction here. Sometimes it is the onset as a whole which is relevant, and at other times, it looks like we are dealing with single segments.

The obvious peculiarity of the s+stop clusters compared to other word initial clusters in Old Icelandic is that the former do not begin with a phonetic sonority minimum. (See most recently Minkova 2003 for an elaborate discussion of this type of alliteration.) From the point of view of segmental structure, the /s/, being a fricative, is more sonorous than the stop /t/. But there is both a relational and a segmental side to sonority, since it can either be measured in terms of the featural composition of the segments, referring to features like [continuant] or [sonorant], or by the strength relations of nodes of labelled trees (see Kiparsky 1980). Thus the (less sonorous) onsets and codas are, as positions, weaker than the (more sonorous) nuclei. In the latter interpretation, "sonority", is "...simply the intrasyllabic counterpart of stress,"

(op. cit.: 249), and the nucleus is the most prominent part of the syllable. By this measure the /s/, being farther away from the nucleus than the stops /p/, /t/ and /k/, is weaker, even though as a segment it is more sonorous and by virtue of this has greater syllabic potential than the stop. Since the less sonorous stops of the clusters /sp, st, sk/ cannot be ignored in alliteration, whereas other more sonorous ones can, like /l/ and /n/ in *Sungu ok slungu / snúðga steini* and the /r/ in *gráðugr halr nema geðs viti* (see 6), it is possible to say that the linguistic locus of alliteration is the first **sonority minimum** relative to a word stress. When only the first segment of a word alliterates, it is the more sonorous part of the onset, which is ignored or optional in the relation.

Using this to explain the s+stop alliteration does, however, not tell the whole story, since if we say that the stop is the sonority minimum of the onset of words like *skyggmask*, and this is what alliterates, we might expect the *sk* to alliterate with *k*, which is obviously not the case.

Before addressing this problem we should note once again that the special status of the s+stop clusters has both a linguistic side and a metrical side. So we could in principle look for an explanation of the s+stop alliteration either in some peculiarity of the metrical constraints or in the linguistic properties of the clusters themselves. In fact the treatment of the s+stop clusters as units in alliteration is not an absolute necessity in Germanic poetry; other ways of treating them are possible. The group-alliteration of the /sp-, st-, sk-/ was not consistent in England in the 11th century without any obvious linguistic cause (see Minkova 2003: 244–245). Furthermore the Icelandic definition of rumbling staves is not constant. It seems for example that the cluster /sm/, although it does not form a unit in the older poetry, was treated as such by some late medieval Icelandic poets; and some ambiguity is to be found in the treatment of the clusters /sn/ and /sl/ in later poetry. Some poets and metrists treat these clusters as ‘rumbling staves’, whereas others treat them in the traditional manner (Ragnar Ingi Aðalsteinsson 2004: 61). It is thus clear that the linguistic conditions only supplied necessary (but not sufficient) conditions for the s+stop clusters to form separate equivalence classes. The definition of “rumbling staves”, in other words, is parametrical. (According to Minkova 2003, the special behaviour of the /s/+stop clusters was their phonetic cohesiveness in terms of glottal features and voicing.)

If we say that the linguistic place of relevance for alliteration is the (relational) place of minimum sonority before the vowel of the alliter-

ating syllable, what was, then, the metrical condition responsible for the fact that /s/ had to be included? The suggestion made here is that the *metrical* place of relevance was defined with reference to the first segment in the alliterating position. That is to say, the alliterating positions had to have the same beginning. This meant that any distinctions in what preceded the sonority minimum up to the beginning of the word taking part in the rhyme could not be ignored. Thus, when /s/ preceded the stop, it had to be included in the rhyming relation.

- (10) um (s.koðask (s.kyli
 um (s.kyggmask (s.kyli

The bracket marks the metrical place of correspondence and the ‘.’ denotes (the beginning of) the linguistic sonority minimum.

3.3 The sonority minimum and vowel alliteration

An interesting question now arises as to how sonority is defined for empty onsets. Obviously an empty onset cannot be classified as a segmental sonority minimum in the same (acoustic or articulatory) terms as e.g. voiceless obstruents. Still, the beginning of a syllable (its onset) must be in some sense weaker or less syllabic or sonorous than its peak. And similarly, we must assume that word internal hiatus, i.e. a place where the following syllable starts without an onset, as in words like *búa* ‘to live’, there is some sort of minimum of syllabicity, even though no consonant is present. Based on our previous discussion, and the distinction between segmental sonority and syllabic sonority, we can give the following definition of a relational sonority minimum, based on syllabic weakness relative to a syllabic peak:

Sonority minimum

A sonority minimum is the least syllabic place relative to surrounding vowels.

In this interpretation, low sonority is absence of syllabicity relative to a more (articulatorily) sonorous and (rhythmically) syllabic position. In that sense the empty onsets in (8) and (9) can be seen as sonority minima and thus applied to vowel alliteration.

The linguistic place of relevance in alliteration is then the **sonority minimum** at the beginning of words, and if these positions are empty, they are trivially non-distinct. The function of vowel alliteration is shown in (11):

(11) (.Ormr knýr (.unnir / en (.ari hlakkar.

Here ‘(’ again represents the metrical position and the ‘.’ the linguistic sonority minimum.

4 Skaldic and eddic rhythm

Before moving on to investigate the linguistic and metrical principles active in the hendings, it is necessary to have a look at the rhythmic conditions under which they developed. The rhythmic innovation of dróttkvætt was the introduction of syllable counting. This called for greater rhythmic cohesion in the text and, so to speak, opened the access of metrical scematisation into the offset of syllables.

4.1 Word counting and syllable counting

The rhythm of the eddic metres is a word counting rhythm (see Hanson and Kiparsky 1996, Kristján Árnason 2006). This means, roughly, that what is counted is the number of words in a line. Since word stresses are the components of sentence rhythm, this in turn means that phrasal stress, as a part of intonation, is the strength relation, which is appealed to in the rhythmic definition of the metre. A complete line in the *fornyrðislag* is formed by four phrasal stresses with weaker syllables intervening, some of which can belong to separate (phonologically weak) words. The following is a typical half stanza in the *fornyrðislag*, repeated from (2) above:

(12) |Hljóðs bið ek |allar |helgar |kindir
|meiri ok |minni |mögu |Hemdallar

The hemistich consists of two lines, each with four strong positions, indicated by ‘|’. Words belonging to phonologically strong categories typically supply the text for the strong positions, and words belonging to weaker syntactic categories are likely to occupy weaker positions. This is shown in (12), where the finite verb form *bið* ‘ask’, followed by a pronominal form *ek* ‘I’ form the dip in the first line. A consequence of the word counting is that the number of actual syllables in the line is quite variable. Thus the trisyllabic *Heimdallar* ‘Heimdall GEN’ fills the last poetic position with its three syllables.

What is relevant to the dróttkvætt rhythm on the other hand is

the relation between strong and weak syllables; the rhythm is syllable counting in the sense that each metrical position corresponds (roughly) to a syllable. Accordingly, the rhythm paid less attention to phrasal stress, and weaker syntactic categories could occur in metrically strong positions, as in (13):

- (13) a. *ek* bar sauð, af nauðum (Egill, lausavísa 33,8)
 I carried sheep, from necessity
 b. *en* þviat illa reyndisk (Þjóðólfr Arnórsson, Magnúsflokkur 4,3), the
 but because proved bad
 c. Svá *skyldi* goð gjalda (Egill, lv. 19,1)
 so the gods should pay

In (13a) the pronoun *ek* 'I' is in the first position, carrying the head stave, and the same goes for the conjunction *en* 'but' in (13b), and it furthermore takes part in the hending relation. Similarly, the modal verb *skyldi* 'should' in (13c) rhymes with *gjalda*. Given the fact that the rhyming and alliterating units are typically placed in strong rather than weak positions, it is natural to assume that the forms in question are metrically strong (or not weak).

Another symptom of this rhythm, compared to the eddic rhythm, was that there was much less variation in the number of syllables per line, as the vast majority of dróttkvætt lines have six syllables. The fact that the number of syllables per line comes close to being fixed at six makes it convenient to refer to the dróttkvætt line form in terms of six positions or slots, each corresponding to a syllable in a normal line, numbered from 1 through 6, as illustrated in (14) with lines from (1) above:

(14)

1	2	3	4	5	6
Und	rask	oðg	lis	land	a

1	2	3	4	5	6
fann'k	oðr	va	drif	svann	i

The variation in the number of syllables follows strict rules of resolution and neutralisation. (See e.g. Kuhn 1983, Gade 1995, Kristján Árnason 1991/2000: 126–132.)

A third (related) characteristic of the dróttkvætt is that there is

more cohesion between syllables in the line than in eddic poems. A symptom of this character of dróttkvætt was the frequent use of contracted or enclitic forms of pronouns and other particles. It is thus generally assumed that the vowel of the first person pronoun *ek* and the relative particle *es* could be deleted so that the line like in (15) would be performed with a strict trochaic rhythm:

- 1 2 3 4 5 6
 (15) | Var'k með |gram þeim's |gumnum (Sighvatr, Bersöglisvisur 1,1–2)
 was I with king who men DAT

By contracting the enclitic forms in performance, the stringent template of six positions, alternating regularly between strong and weak, could be produced. This phenomenon was well known in medieval Icelandic learning and was termed *bragarmál* (see Háttatal, Faulkes 1991/1999: 7–8). It is in fact likely that the performance of the poems and stanzas could play a vital role in the communication of the form, in particular its musicality. Another feature of the dróttkvætt, which relates to this is the cohesive rhyming discussed in Section 5.5.

Still another difference between dróttkvætt and eddic poetry was that the basic beat of the dróttkvætt metre was in triple time so to speak. Even though widely different analyses have been proposed of the rhythm of dróttkvætt, there is general agreement that the basic type of line was the A-type: swsww with three strong positions, each followed by a weak one, as in:

- s w s w s w
 (16) |Lætr sá's |Hákon lheitir (Háttatal 1,1)
 Lets the one called Hákon

But there are other types of rhythm to be found, and scholars disagree as to the number and nature of different rhythmic types. The rhythm of the dróttkvætt is in fact quite interesting and it is clear that there was an intricate interplay between several formal parameters including stress, syllabic quantity, alliteration and rhyme (see Sievers 1893, Kuhn 1983, Gade 1995). A conservative stance regarding the number of variants is assumed by Kristján Árnason (1991/2000), by limiting the basic types to two (three at most), the trochaic one just mentioned (labelled A) and a B-type with inversion of the second and third position creating a rhythm of the type: sswww, exemplified by lines like: *fé|milldum gram lvilldi* (cf. 17b).

But in spite of the complexities of the dróttkvætt form, the last

two syllables of a line are fixed and form what could be analysed as a trochee with a heavy ictus: *heitir, villdi, gumnum* etc., cf. the examples above. This is a generalisation, which holds for (virtually) all lines of *dróttkvætt*. This is also the place where the head of the hending construction occurs without exception.

4.2 Alliteration in skaldic metres

With respect to equivalence classes, the same principles of alliteration are valid in the *dróttkvætt* as in the eddic metres, i.e. the rules for consonantal alliteration, vowel alliteration and cluster alliteration of s+stop are the same. But the rules for the distribution of the staves are different in accordance with the difference in the structure and the style of the metre. Beside the syllable counting rhythm, which created other (in a sense more musical and less prose like) conditions than in the eddic forms, the style is more stringent and regular.

In regular *dróttkvætt* the main stave is invariably placed in the first position in the second line of a couplet (the b-line), whereas the supports (the first two staves) can occur in any of the positions in the first line (the a-line), except the last one. The alliterating construction thus has the couplet as its domain. This is illustrated in (17). Although the supports can occur in any position in the first line of the couplet, they are both obligatory, whereas one of the two supports is optional according to the eddic rules.

- (17) a Var ek með gram þeim es gumnum (positions: 3–5)
 (goll bauð drottinhollum) (Sighvatr, Bersöglisvísur 1,1–2)
 I was with the king who offered gold to faithful followers
- b ok valköstu vestan (positions: 2–5)
 (veðrbliks liði miklu) (Sturlunga 147,5)
 and dead people from west weather-flame a big cohort-DAT
- b Fylgða ek þeim er fylgju (positions: 1–5)
 (fémilldum gram villdi) (Sighvatr, Bersöglisvísur 2,1–2)
 I followed the one who following-DAT generous king wanted
- c Nú eru þegnar frið fegnir (positions: 4–5)
 (föður þínum vel mína)
 Now subjects are relieved by peace, your father well mine
 Sighvatr, Bersöglisvísur 2,3–4

- d Ferð þá er flotnar börðusk (positions: 1–3)
(faðir þinn liði sínu)
The journey when men fought your father his team
Sighvatr, Bersöglisvísur 3,3–4

It can be said that the relative freedom in the metrical placement of the supports underlines the rhythmic character of the *dróttkvætt* as syllable based, i.e. the metrical positions are defined with respect to syllabic slots. Any of the positions in the odd – numbered line was open to the supports. The only restriction seems to be that the staves have to be word initial, which in our terms means that the linguistic position for the staves is in the onsets of words, just like in the eddic metres.

It is interesting to consider the rhythmic implications of the placing of the supports in the odd line. Some scholars have maintained that alliterating syllables were rhythmically stronger than the other syllables, whereas others have seen the alliteration as less important for the rhythm of *dróttkvætt*. (See Kristján Árnason 1991/2000: 133–143 for discussion and references.) Our premise here is that alliteration was in any case not a driving force in the rhythm or dynamics, even though the alliterating syllables were in some sense more prominent in the text than those that did not alliterate.

5 Linguistic and metrical structure in the hendings

In this section we will turn to the linguistic and metrical character of the hendings as they are used in the *dróttkvætt* form. We shall see that several interesting complications in the rules for the hendings are reminiscent of those found in alliteration. In fact, the principles of correspondence between language and metre, when seen in a certain light, are strikingly similar. In particular, the function of vowel alliteration and the existence of what will here be called “empty rhyme” suggest that *mutatis mutandis* the same principles of language-metre correspondence were at work in both types of rhyme.

5.1 The right-headedness of the hending constructions

We are working under the assumption that the hendings, like alliteration, are superimposed on the text by forming rhyming constructions, so that certain places in the text are used to signal the constituent

structure. We have also seen that traditional metrical terminology implies that the last participant in the relation of alliteration, the head stave, was in some sense the head of the relation, and we suggested that the same sort of right-headedness characterises the hendings.

One indication of right-headedness is that the place of the head stave, the last member of the alliterating construction, is fixed, both in dróttkvætt and eddic, whereas the distribution of the supports is freer. In a similar way, the second participant in the hendings has a fixed place, since it is invariably in the penultimate position in the dróttkvætt line, whereas the first member of the relation has more freedom in this respect. This is illustrated by the lines in (18):

- (18) *Lætr* sá's Hákon heitir (Háttatal 1,1)
lets the one called Hákon
- fríðrofs* konungr *ofsa* (Háttatal 1,4)
breach of peace-GEN king rage-ACC
- ok *valköstu* *vestan* (Sturlunga 147,5)
and dead people from the west
- þar's *Eyfirdings* *orðin* (Sturlunga 70,5)
where a person from Eyjafjörðr become
- Jörmunrekkr* at *vakna* (Bragi, Ragnarsdrápa 11,5)
Ermanarík to wake
- nauta leðrs* á *nadri* (Þjóðólfr Arnórsson lv. 15,7)
bull-GEN-PL leather on worm

The examples show that the first hending can occur in any of the first three positions in the line. The only constraint seems to be that the supporting rhyme cannot occur in the 4th position, which immediately precedes the second member occurring in the penultimate position.

The facts in (18) support our view that the second member of the hending construction forms the head of the construction and the first syllable in the rhyming pair is a sort of 'support' of the head rhyme (in the same way as the *studlar* form supports to the head stave in alliteration).

An additional feature shared by alliteration in the *fornyrðislag* and the hendings in dróttkvætt, which will be shown more clearly in Section 7.1, is that the second member of the construction occurs in the penultimate position as defined by the rhythmic counting in each of

the metres. We will see that the eddic rhythm counts words, but the *dróttkvætt* rhythm counts syllables. The head stave occurs in the penultimate word in the line of *fornyrðislag* and the head rhyme occurs in the penultimate syllable of the line of *dróttkvætt*.

5.2 Linguistic units in the hendings

A first approximation in defining the details of the linguistic and metrical units of correspondence for the hendings is to say that what rhymes is the vowel and the following consonants, and in the case of disyllabic words, the interlude between the first and the second syllable. And this is the natural interpretation of Snorri Sturluson's description, mentioned above (Section 2.5). This also fits with a great number of examples, as shown in (19) (the right square bracket is used to mark the limit of the identical sequences):

- (19) bar] valkastar bár]u (Þjóðólfr úr Hvini, *Haustlǫng* 3,6)
carried dead people-GEN wave

Óláfr] allra jǫfr]a (Hallar-Steinn, *Rekstefja* 3,1)

Ólafr all kings-GEN

eydd]i úlfa gredd]ir (Hallfreðr, *Ólafsdraða* I 8,5)

spent wolf-GEN-PL feeder

But in spite of Snorri's statement, there are plenty of examples, where only one of two (or more) consonants participates in the rhyme, as shown in (20):

- (20) (a) *Skothendingar*:

Ólafs mág]r svá't óg]ði (Sighvatr, *Flokkur um Erling Skjalgsson* 9,3)

Ólaf's relative so that frightened

Her]gauts vinu bar]ðir (Bragi, *Ragnarsdraða* 5,8)

Óðin's friend battered-PL

raus]n dugir hans at hrós]a (Einarr Skúlason, *Geisli* 15,7)

generosity allows his to commend

þat vas fræg]t í fag]ran (Þjóðólfr Arnórsson, *Magnúsflokkur* 12,3)

that was famous in fair-ACC

- (b) *Aðalhendingar*:

Dan]markar þik van]ðan (Óttarr svarti, *Höfuðlausn* 3,4)

Denmark you-ACC accustomed-ACC

skjót]t ok mörðu spjót]i (Þjóðólfr Arnórsson, Magnúsflokkur 9,2)
quickly and many a spear

These examples show clearly that the participation of a second or third consonant following the vowel was optional, and in the case of geminates or long consonants, the length difference could be ignored.

5.3 The empty rhyme

Another phenomenon, which shows that Snorri's account of the hendings is not perfect, is illustrated in (21), where it seems that only the vowels take part in the rhyming relation:

(21) a. Full rhyme (*aðalhending*):

ey] vébrautar hey]ja (Þorbjörn hornklofi, Glymdrápa 1,3)
island holy road-GEN engage in

geirþey] á Skáney]ju (Hallfredr, Ólafsdraða I 4,8)
battle in Scania

böðský] frammar kný]ja (Þjóðólfr Arnórsson, Magnúsflokkur 11,4)
battle clouds further drive

b. Half rhyme (*skothending*):

þrá] muna oss um æ]vi (Kormákr Ögmundarson, Lausavisa 2,7)
longing will not us for life

Typical for these examples are long vowels followed by a word or morpheme boundary, including inflexional endings or the glides *v* and *j*. (See Eduard Sievers 1893: 94, Andreas Heusler 1956/1925: 293.) Only long vowels or diphthongs can rhyme in this way.

It seems that any morphological boundary can be used to split a consonant from its preceding vowel in this sort of rhyme. Inflexional boundaries can have this effect, as in the following examples:

(22) hiorva gný]s ok ský]jum (Hallfr. Ólsafsdr. 1,6)
battle and clouds

sverða gný]s at frý]ja (Sighvatr, Nesjavísur 5,2)
battle to urge

Here the vowel of the genitival form *gný+s* 'noise-GEN' rhymes with that of *skýjum* 'clouds-DAT', leaving the /s/ out. And the derivational formative *ð* in *liðfæ+ð* ('paucity', derived from *fá(r)* 'few') can

be ignored, and also the comparative ending *r* in *smæ+ri* from *smá(r)* 'small', as in:

- (23) liðfæ]ð ok skip smæ]ri (Sighvatr, Lausavisa 19,4)
 'few men and smaller ships'

It seems, then, that the absence of a consonant can establish a rhyming relation. And this is all the more striking for the fact that it can occur in the half rhyme (*skothendingar*), where vowels differ, but consonants as a rule establish the rhyming relation in a sort of consonance. This of course reminds of the alliteration of vowels. In both cases the absence of a consonant works as an equivalence class or a rhyming unit.

5.4 Phonological hiatus in metre

The postvocalic equivalent of an empty onset is the end of vowel final words like *brá* 'longing' and *ský* 'cloud'. And word internally this corresponds to a hiatus; it can be said that a hiatus by definition involves a word internal empty onset. As a type of phonological structure hiatus seems to be less natural, at least in Old Icelandic, than a word initial empty onset. Hiatus forms like *búa* have light first syllables, which among other things has the effect that they cannot occupy the last two positions in a line of dróttkvætt. (See Bugge 1879; Kristján Árnason 1991/2000: 115–118.) These forms are thus systematically excluded from forming head-rhymes. However, the monosyllables could fill ictus positions and may be classified as heavy, at least when followed by a consonant, as in (21).

The forms which participate in the empty rhyme and as such occur in the head position typically have, as we saw, *v* or *j* as onsets to the second syllable: *æ-vi*, *ský-jum*, *flý-ja*, cf. (21) and (22). Old Icelandic *v* and *j* have been classified as semi-vowels or glides, so this is what comes closest to an empty onset word internally in a form which could occur in the fixed head-rhyme position in a dróttkvætt line. In the light of this, we can say that a nonconsonantal break, an empty coda or closure of the preceding syllable, or alternatively a vocalic onset to the following syllable, is the locus of the empty rhyme in the examples in (24), also cited in (21) and (22):

- (24) ey.] vébrautar hey.]ja
 þrá.] muna oss um æ.]vi

In these examples ']' is inserted to mark the sonority minimum form-

ing the linguistic place of relevance for the rhyme.

An interesting fact about these examples is that the head rhymes seem to be more homogeneous than the supporting rhymes. With the exception of (23): *liðfæð ok skip smæri*, they consist of a long vowel followed by a glide. The supporting rhymes, however, are more varied, since they involve boundaries followed by any type of consonant. It thus seems that the conditions are stricter for the head rhyme than the supporting rhyme. In other words, once the head rhyme is established with an empty sonority minimum, morphological boundaries can be invoked to match them in the supporting rhymes.

The rhyming relation in (23): *liðfæ+ð* and *smæ+ri* is special in that a glide does not follow the vowel in the head-rhyme, but it is in fact possible that the sonority of the /r/, which may well have had an approximant articulation in Old Icelandic, was on a par with that of the glides. Another instance where the /r/ forms a class with /v/ and /j/ is in the open syllable lengthening, which formed part of the quantity shift. The lengthening did not take place when two consonants followed, as in *landa* 'land PL', except when /v/, /j/ or /r/ followed a stop or /s/, as in *setja* 'to set' (Modern Icelandic [setja]), *vökvi* 'fluid' (MI [vœ:kvi]) and *sötra* 'to sip' (MI [sœ:tra]) (see Kristján Árnason 1980: 151 ff.). Thus in the syllabification of these forms the /r/ sides with the glides /v/ and /j/, and not with other sonorants such as /l/ and /n/, in forms like *sigla* 'sail' and *sagna* 'stories-GEN-PL', which have short vowels in Modern Icelandic.

5.5 Cohesion in the dróttkvætt

Although the examples above show that morphological boundaries could create empty offsets for vowels to take part in a rhyming relation, we must note that consonants following such morphological boundaries *could* participate in the rhyme, as in Snorri's line:

- (25) *hræ+s þjóðár ræsa* (Snorri Sturluson, Hättatal 7)
blood's big river start

And what is more striking, a consonant can make a contact with a preceding vowel across a word boundary to form a rhyme with a word internal consonant in the head rhyme:

- (26) *Heyrðat svá þat síðan* (Þjóðólfr úr Hvini, Haustlöng 12,1)
heard not so that later

Svá þykkt flugu síðan (Þjóðólfr Arnórsson, Magnúsflokkur 10,5)
so thickly flew later

Nú ræðr þú fyr þeiri (Óttarr svarti, Höfuðlausn 18,1)
now you control that one

Þó ræð hann at hváru (Einarr Skúlason, Geisli 32,5)
still he controlled anyway

Hví samir hitt at dúsa (Eldjárn, Lv. 1,1)
why is the other appropriate to remain

Þó var ei svá rík at reifum (Eysteinn Ásgrímsson, Lilja 35,1)
still was not as rich of swaddling-cloth

sá vas hjórr ens háva (Einarr Skúlason, Geisli 44,5)
that was sword of the high one

svá fór þat er svaraði Eva (Eysteinn Ásgrímss. Lilja 16,5)
so it went when Eve answered

þá vá Þorsteinn hávan (Haukr Valdisarson, Íslendingadrápa 23,7)
then killed Þorsteinn a high one

því var kónggrinn hörðu heyvi (Eysteinn Ásgrímsson, Lilja 35,3)
therefore the king was hard hay-DAT

In these examples, the initial consonants of following words seem to match consonants in head rhymes, like in: *hví-samir* : *dúsa*. We note, however that this cohesive measure is never used in the head rhyme. It is only in supporting rhymes that the rhyme crosses word boundaries.

Examples can also be found, where the head rhyme has a cluster and cohesion seems to be called for to match it:

(27) *af því at eignum lofða* (Sigvatr, Bersögglisvísur 5,3)
because possessions of the king

af því't ýtar hǫfðu (Þjóðólfr Arnórsson, Magnúsflokkur 4,3)
because men had

en þvíat illa reyndisk (Þjóðólfr Arnórsson, Lausav. 25,5)
but because badly turned out

ok þeim er vel vakði (Einarr Skúklason, Geisli 41,5)
and those who well woke

er þit sjáit mik öllu varða (Eysteinn Ásgrímsson, Lilja 97,6)
 which so see me all to matter

The sort of cohesion found here reminds of the so-called *Stab der Liaison* in Middle English alliteration, i.e. cases where a word final consonant forms an onset to a following syllable and as such alliterates with other onsets:

- (28) *Toax, a tide mon /of that oþer side.*
 (Destr. of Troy, cf. Minkova 2003: 169)

These phenomena become comprehensible if we assume cohesion on the postlexical level of the phonology. In the *Stab der Liaison* the /t/ of *that* forms an onset to the vowel of *other*, and in: *Heyrða't svá þat síðan* (cf. 26), with a likely pronunciation [høyrðat 'svo:ðat 'si:ðan], the dental fricative in *þat*, forms by cohesion an internal onset in the dissyllabic [svo:ðat].

But even if the cohesive rhyme and the empty rhyme can each be interpreted in its own way, there might still seem to remain a contradiction between the two phenomena. On the one hand a morphological boundary can create a break to match a non-consonantal syllable contact in empty rhyme, as in: *hiorva gny]s ok ský]jum*, and on the other hand a word boundary can be overridden to create a consonantal contact to match a word internal one as in: *Heyrðat svá þ]at síð]an*. It would seem that two opposing principles are at work.

5.6 Resolving the paradox

But a closer look at the distribution of the forms participating in the empty rhyme and the cohesive rhyming pairs reveals some features which make the facts more comprehensible.

To start with the empty rhyme, it seems that in all instances the head-rhyme involves a long vowel followed by a semivowel (or in some instances an -r), which could be interpreted as a (relatively) sonorous syllable contact. We also saw that the forms in (22) and (23), where a morphological boundary has to be invoked to establish the hending relation, are all in supporting rhymes. According to the logic assumed for the rhyming constraints, we can then say for these cases that a word or morpheme boundary is invoked to match an empty syllable contact established in the head-rhyme. However, a word boundary could not be used in this way in the head rhyme, since the last two positions had

to be filled by disyllables, and a sequence like *ey var* 'island was' was unthinkable in this position.

In the case of the cohesive rhyme, as in *af því at eignum lofða* (Sighvatr, Bersöglingisvísur 5,3, cf. 27), we also see that the head-rhymes are all regular, whereas the 'forced', cohesive rhyme is in the supporting positions. In that case, the non-sonorous contact created by cohesion is an echo (a reverse one in fact) of the main rhyme, and would be unthinkable in the main rhyme position, because of the impossibility of a word boundary between the last two syllables in the line. Thus the head-rhyme is the more regular member of the construction.

5.7 Inseparable clusters in the hendings

So we see that, depending on the conditions set by the head-rhyme, morphological boundaries could either be invoked or ignored in the supporting rhyme. But we have also seen that consonants other than the one immediately following the syllable can be ignored in the rhyme as shown in *Ólafs mág]r svá't ég]ði* (Sighvatr, Flokkur um Erling Skjálgs-son 9,3), *her]gauts vinnu bar]ðir* (Bragi, Ragnarsdrápa 5,8) and other similar examples listed in (20). There are, however, interesting limits to this sort of rhyme. A clear exception (or so it seems) from the principle that a second consonant could be ignored in the hendings is that clusters of *s+stop*, i.e. clusters like: *sp*, *st* and *sk* only rhyme with themselves. An example showing this is the line in (29):

- (29) *hesta rás] ór hús]um* (Sighvatr, Austrfararvísur 12,4)
horse-GEN-PL run from houses

Here the *s*-sounds in *rás* and *húsum* form the rhyming relation, whereas that of *hesta*, which forms a part of the cluster *st* is excluded from the rhyming construction and would have formed an impermissible extra rhyme if it had taken part in the construction.

Similarly a nasal followed by a stop (*nd*, *nt*, *ng*, *nk*, *mb*, *mp*) can only rhyme with a cluster of the same sort. There are no examples of rhymes of the type listed in (30):

- (30) **land* : *vanta*, **ganga* : *landa*, **vindr* : *minkr*, **lamb* : *kempa*, **vinr* : *ganga*
etc.

In other surroundings, i.e. preceding another consonant or a boundary, an *n* can rhyme alone, as in:

- (31) a. fen]s vá gramr til men]ja (Kormákr Ögmundarson,
Sigurðardrápa 6,8)
quagmire killed king to jewelry
- b. vin]r firrði sik syn]ðum (Einarr Skúlason, Geisli 62,7)
friend freed himself of sins

Similarly, a lateral in front of a dental *d* does not rhyme with a lateral in another environment, since rhymes like **valld* : *tala* or **valld* : *helgan* do not seem to occur. The traditional interpretation of this is that in front of dentals, *l* was alveolar or dental, but in other environments, it was articulated further back, either velarised or retroflex (Jakob Benediktsson 1960, Noreen 1923/1970: 42,189). It is thus possible that differences in the articulation of laterals in different surroundings are partly responsible for this. And it is also possible that assimilation of place of articulation and some other phonetic features can be responsible for the absence of the nasal rhymes listed in (30).

Another possible explanation of this and the other examples mentioned above is in terms of sonority and the idea that the rhyme is established in terms of sonority minima following syllables. In nasal clusters like *nd*, *mb*, *ŋg*, and the *lld*, the sonority minimum is the stop, and the same goes for postvocalic clusters like *sp*, *st*, *sk*. So, a more sonorous segment in front of the stop could not establish a rhyming relation without the participation of a following obstruent or less sonorous segment. In fact this seems to hold more generally, since for the older poetry, a less sonorous consonant is never excluded from the rhyme after a more sonorous one. A typical rhyme is the following where the obstruent /g/ (stop or fricative) following the more sonorous /r/ is matched by the same cluster in supporting rhyme:

- (32) morg]un, Rúðuborg]ar (Sigvatr, Vestrfararvisur 1)
morning Rouen-GEN

We do not get rhymes of the type *mord* : *borgar* where the sonorant would have to carry the rhyming relation without the participation of the less sonorous fricatives. However, the second consonant can be extra-rhymal when it is not lower in sonority than the preceding one, as shown by the following examples:

- (33) Ö]r]r tegask Óleif gør]va (Sigvatr, Vestrfararvisur 3,1)
generous says Ólaf make

allfram]r búendr gam]la (Sigvatr, Vestrfararvísur 4,2)

very prominent-NOM old farmers-ACC

hygg þú at], jöfurr skat]na (Sigvatr, Vestrfararvísur 6,)

think about, king of men

Assuming that the semivowel /v/ is at least as sonorous as /r/ and that the lateral /l/ is at least as sonorous as the nasal /m/, the sonority minimum following the vowels is reached before the onset of the second consonant.

In an example like: *fen]s vá gramr men]ja* (see 31a) the less sonorous /s/ is ignored after /n/ in *fens*, which may seem to contradict the sonority hypothesis, but this can be due to a morphological boundary invoked for the supporting rhyme in the manner suggested in 5.4. Similarly, in examples like: *Danmarkar þik van+ðan* (cf. 20b) it is possible that the boundary between the verb stem *van-* with a relatively sonorous nasal and the past tense suffix *-ð-*, a fricative, split the interlude.

The function of sonority relations in the hendings matches in an interesting way with the conditions in alliteration. We saw that in alliteration a more sonorous segment can be ignored involving a less sonorous one in examples like: *gráðugr halr nema geðs viti* (Gróttasöngur 4,1–2) or in: *sungu ok slungu / snuðga steini* (Gróttasöngur 4,1–2) and in the case of s+stop alliteration the less sonorous stop could not be ignored. This amounts to saying that linguistically the alliteration is defined in terms of a sonority minimum relative to more sonorous surroundings before the vowel. And this is also true of the hendings, only we are dealing with the position of minimum sonority *following* the vowel.

6 A summary of similarities and differences between alliteration and rhyme

Given the similarities described above between the hendings and alliteration, we seem to be in a position to capture the principles of the two types of rhyme under the same heading as a requirement of non-distinctness in the next sonority minimum, respectively, *before* and *after* the vowel of a head rhyme and its support(s), as expressed in (34):

- (34) A rhyming/alliterating connection can be established between a head (stave or rhyme) and a support (stave or rhyme), if the first sonority minimum following/preceding the vowel of the support does not belong

to a different equivalence class than the next sonority minimum following/preceding the vowel of the head.

These formal similarities seem to be compatible with the hypothesis that the hendings developed inherently, but did not have to be borrowed from abroad.

7 Rhythm and rhyming schemes

Although we want to emphasise the similarities between alliteration and rhyme, there obviously are differences, which need to be explained. In this section we will have a closer look at how the rhyming schemes (comprising both alliteration and the hendings) relate to the rhythm of the different styles, as defined by the counting of positions in the metre. It will be maintained that the rhythmic principles of the skaldic style formed the right conditions for the development of the hendings, whereas the eddic style was suitable for the original use of alliteration as a binding device.

7.1 Word counting and syllable counting: rhythmical accessibility

It has been argued that the function of the rhyme and alliteration is not rhythmical in the sense that the rhyming constructions are directly involved in creating the alternation between strong and weak metrical positions. But there is obviously a relation between rhythm and rhyme, if only for the fact that a weak constituent is less likely to carry a stave or a hending than a strong one. The rhyming schemes are dependent on rhythm, but not the other way around. And there is a further, perhaps more important, connection between rhythm and rhyme in that there are certain rhythmic prerequisites in the skaldic metres for the development of the hendings as a metrical device, which were not present in the eddic forms.

The rhythmic innovation of *dróttkvætt* was the introduction of syllable counting. This rhythmic innovation called for greater phonological cohesion in the text, so to speak, but more important for the function of the hendings, this made the offset of syllables open to metrical schematisation.

To illustrate the difference between the eddic and the skal-

dic rhythm, we can look at the representations in (35) for the eddic *fornyrðislag*, and (36) for the *dróttkvætt*:

(35)

Text	Hljóðs bið ek	allar	helgar	kindir
Position	1	2	3	4
Alliteration	((

Text	meiri ok	minni	mögu	Heimdallar
Position	1	2	3	4
Alliteration	(((

In (35) the positions relevant to the *fornyrðislag* are numbered from 1 to 4, and brackets indicate positions active in the rhyming construction. In this structure there is no rhythmical layer on which to identify the syllabic interludes.

In (36), which describes the *dróttkvætt*, there are six positions, corresponding to syllables, and here the syllabic interludes become visible through the positions marked by the gridlines in the tables.

(36)

Text	Und	rask	ögl	is	land	a
Positions	1	2	3	4	5	6
Hendings]]
Alliteration	((

Text	frið	rofs	kon	ungr	ofs	a
Positions	1	2	3	4	5	6
Hendings]]
Alliteration	(

For word counting of the type shown in (35), the rhymes or syllabic interludes are “invisible” to the metrical scheme and thus cannot form rhyming constructions, but in the syllable counting structure in (36) they are. This is because ‘every syllable counts’ in the rhythm, and thus the interlude between two syllables like: *u-nd-rask* can be used to form a relation with *la-nd-a* etc. (In our representation, the right hand square bracket is placed relative to the following gridline, which marks the syllable contact.)

A point of similarity between the metrical positioning of alliteration in the eddic form and of the hendings in the *dróttkvætt*, which has already been noted, becomes apparent when we compare the grid-representation for each metre. This is that in both instances the head of the rhyme construction occurs in the penultimate position in the grid. Thus in (35) the head stave is in the 3rd, i.e. last but one position in the line of *fornyrðislag*, and in (36), the head rhyme is in the 5th and last but one position in the line of *dróttkvætt*.

7.2 The contrapuntal structure of *dróttkvætt*

It is clear that in the *dróttkvætt* several things are going on at the same time and the text has to satisfy a number of constraints simultaneously. Although the alliteration developed originally in the eddic rhythm, the fact that gridlines corresponding to the beginnings of words (as well as syllables) are present in the skaldic scheme in (36), means that it could also be made use of in this rhythm, as we have seen.

But on top of this there is an alternation between strong and weak positions, which we have not paid much attention to in this paper. Even though scholars have proposed different analyses of the rhythmic character of the *dróttkvætt*, there is agreement that both stress and syllabic quantity played a role in the metrical structure, and these parameters made further additions to the formal complexities. (See Gade 1995, Kristján Árnason 1991/2000 and Kuhn 1983 for varying interpretations of the rhythm.) The interplay between these different patterns is best described in terms of parameters or scores of the sort found in music, where counting takes place simultaneously on more than one level. It is appropriate to show this in a representation, which does not assume any hierarchy between the parameters. In that way the quantitative and stress based rhythm of the text is independent of the templates for alliteration and rhyme and vice versa.

To illustrate this, we can add one more score to the grids shown in (36), representing the dynamic alternation between (relatively) strong and weak positions, as shown in (37):

(37)

Text	Und	rask	øgl	is	land	a
Positions	1	2	3	4	5	6
Dynamics	s	w	s	w	s	w
Hendings]]
Alliteration	((

Text	frið	rofs	kon	ungr	ofs	a
Positions	1	2	3	4	5	6
Dynamics	s	s	w	w	s	w
Hendings]]
Alliteration	(

Here we have added a line where the positions are marked as strong or weak. In these examples, strength is assumed for syllables bearing word stress and which furthermore take part in the rhyming schemes. It is assumed that only three positions can be strong and that there are only two degrees of strength, but scholars have been willing to assume more variation in degrees of strength and the number of strong positions. This is a different issue, which will not be dealt with here; the point emphasised in the paper is that the syllable counting rhythm of the dróttkvætt was a prerequisite for making use of the offset of the vowels as linguistic points of reference for the hendings.

8 Conclusion

Our survey of the principles of hendings and alliteration in Old Icelandic poetry has revealed interesting similarities in the essentials of the language-metre correlation. Both rhyming relations are based on matching sonority minima, which form parts of rhyming constructions, whose primary function is to communicate the division of the poetic text into constituents (lines and couplets). The two schemes relate to different levels in the rhythmical build-up of the texts as defined by the two types of poetry, eddic and skaldic. Alliteration is originally built on word rhythm in the eddic metres, so that word onsets, occurring in metrically strong positions, form constructions with the head stave as the structural centre. The hendings, which only became pos-

sible as a poetic device in the syllable based rhythm of skaldic metres like the *dróttkvætt*, formed rhyming constructions, where the second member formed the head in the same way as in alliteration. Since word beginnings are also visible in the *dróttkvætt*, alliteration could be used along with other poetic means in the complex structure of the metre.

The non-rhythmic linguistic characterisation, on which the categorisation of metrical equivalence was based, was the same for both types of scheme as far as allowed by the different conditions. Both clusters and empty positions seem to be defined in the same way *mutatis mutandis*.

The fact that the differences between the two types of rhyme can be connected to the rhythmic differences between skaldic and eddic poetry makes it unnecessary to assume that the hendings as such are due to foreign influence, as is sometimes done. The primary innovation was the introduction of syllabic rhythm.

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