On the Emergent Trochaic Cadence / × in Old Norse *Fornyrðislag* Meter: Statistical and Comparative Perspectives

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Through statistical and comparative investigations of eddic poetry, I show that Old Norse *fornyrðislag* meter is sharply distinguished from its West Germanic cognates by its strong preference for the trochaic cadence lift + drop in the b-verse. This unique feature is claimed to have induced the radical redistribution and reorganization of the major metrical types, types A, B, and C in *fornyrðislag*. Furthermore, I suggest that this favored cadence served as a basis for the fixed cadence of *dróttkvætt* meter by generalization and reanalysis.[*]

1. Introduction.

This article shows that the b-verses of eddic poetry composed in *fornyrðislag* meter are strongly regulated by the trochaic cadence lift + drop (/ ×). This favored cadence may be regarded as an innovation unique to the Old Norse meter and can be held responsible for an array of metrical features that sharply differentiates *fornyrðislag* from its West Germanic cognate meters as epitomized in *Beowulf* and the *Heliand*.

The corpus of eddic poetry composed strictly in *fornyrðislag* meter (Sievers 1893:§41) consists of the following twenty works (Kuhn 1962): *Vǫlospá* (*Vsp*), *Hymisqviða* (*Hym*), *Þrymsqviða* (*Þrk*), *Vǫlundarqviða* (*Vkv*), *Helgaqviða Hundingsbana in fyrri* (*HH*), *Helgaqviða Hiǫrvarðzsonar* (*HHv*; excluding 12.5 through 30), *Helgaqviða*

Hundingsbana ǫnnor (*HH.II*), *Grípisspá* (*Grp*), *Brot af Sigurðarqviðo* (*Br*), *Guðrúnarqviða in fyrsta* (*Gðr I*), *Sigurðarqviða in scamma* (*Sg*), *Helreið Brynhildar* (*Hlr*), *Guðrúnarqviða ǫnnor* (*Gðr II*), *Guð-rúnarqviða in þriðia* (*Gðr III*), *Oddrúnargrátr* (*Od*), *Guðrúnarhvǫt* (*Ghv*), *Baldrs draumar* (*Bdr*), *Rígsþula* (*Rþ*), *Hyndlolióð* (*Hdl*), and *Grottasǫngr* (*Grt*). I treat this corpus as a unitary sample of *fornyrðislag* verse and abstract away from stylistic differences among the individual constituent poems. For a complementary perspective with a focus on the individuality of particular poems, see for example Ent 1924 and Gering 1924.

In the following discussion, I assume the basic tenets of Sievers' (1893) theory of Old Germanic meter and its elaborations and generalizations in a prototype-based framework (Suzuki 1996, 2004). According to Sievers, a vast majority of Old Germanic verse forms consist of four metrical positions and the diversity of these regular verses is classified into the five basic types in 1.

(1) Sievers' five metrical types:[1]
   A. / × / ×: for example, *Vsp* 6.7 morgin héto
   B. × / × /: for example, *Vsp* 3.3 vara sandr né sær
   C. × / / ×: for example, *Vsp* 8.5 unz þriár qvómo
   D. / / \ × or / / × \: for example, *Vsp* 35.7 ver velglýiuð
   E. / \ × /: for example, *Vsp* 16.7 langniðia tal

While commonly labelled "basic," as opposed to the exceptional verses that deviate from the canonical four-position structure, the five types largely vary as regards their status in the metrical system. Specifically, types A through C may be viewed as more central to the system than types D and E, which are regarded as more peripheral, on the

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[1] Throughout this paper, I use the following symbols for representing metrical and prosodic entities: / = lift; × = drop; \ = heavy drop; P = long primary-stressed syllable; p = short primary-stressed syllable; S = long secondary-stressed syllable; s = short secondary-stressed syllable; x = unstressed syllable of any length; x… = one or more unstressed syllables; # = word boundary. Noteworthy is the notational distinction between × (drop) and x (unstressed syllable). For abbreviations of individual poems of the *Elder Edda*, see above in the text (compare Kuhn 1962:IX–X); and *Beo* and *Hel* stand for *Beowulf* and the *Heliand*, respectively.

following grounds. First, in quantitative terms, the first three types are far more frequent, as shown in the next section (table 1). In comparison, the frequency of the latter two types is extremely low as compared with the statistically expected probability (that is, 0.2). Second, types A through C are minimal and simplex in that they consist exclusively of binary-opposed constituents, the lift (/) and the drop (×). By contrast, types D and E contain a third value, namely the heavy drop (\), a marked variant of the drop, and they must accordingly be characterized as more complex in terms of composition. Thus, types A, B, and C are based on the binary opposition, types D and E on the tertiary one. For these reasons, we may regard types A through C as major types in distinction from the minor types D and E.

2. Preference for / × in Verse-Final Position.

The relative frequency in use of the five metrical types (A, B, C, D, and E) in *fornyrðislag* verse largely differs from those in *Beowulf* and the *Heliand*. It is sharply distinguished by the marked increase of types A and C at the expense of types B, D, and E, as indicated in table 1 (compare Sievers 1885, 1893:§§44, 114).[2]

	Fornyrðislag		*Beowulf*		*Heliand*	
	Count	%	Count	%	Count	%
A	3034	58.5	2857	48.0	4580	44.5
B	449	8.7	1047	17.6	3150	30.6
C	1281	24.7	1121	18.9	1790	17.4
D	297	5.7	507	8.5	344	3.3
E	128	2.5	415	7.0	427	4.1
Total	5189	100	5947	100	10291	100

Table 1. Frequencies of the five basic metrical types in
fornyrðislag, *Beowulf*, and the *Heliand*.

[2] In collecting the data, I disregarded the deviant verse forms that are shorter or longer than the canonical four metrical positions, such as type A1- (/ × /; for example, *Sg* 27.3 *systor sonr*) and type D* (/ × / \ × or / × / × \; for example, *Vkv* 9.5 *viðr inn vinnþurri*). Also excluded from the statistics are a variety of structurally ambiguous verses that defy unequivocal scansion, as with *Vsp* 57.2 *sígr fold í mar* and *Vsp* 59.6 *flýgr ǫrn yfir,* which may be scanned as type D or type E and type A (subtype A1s) or type D, respectively.

Of particular significance is the diametrically opposite development of the three major types (types A, B, and C) in Old Norse and Old Saxon meters: in comparison with the pattern observed in *Beowulf*, arguably the standard of reference for Old Germanic metrical studies, type B is radically decreased for the benefit of types A and C in *fornyrðislag*, while it is drastically increased at the cost of the same two types (and also of the two minor types) in the *Heliand*.

Running a chi-square test confirms that *fornyrðislag* verse and the *Heliand*, respectively, differ significantly from *Beowulf* in regard to the distribution of the major metrical types: in both cases, we get a p-value of < 0.001, which means that the distribution of the three metrical types is significantly different between *fornyrðislag* poetry and *Beowulf* on the one hand and between the *Heliand* and *Beowulf* on the other.[3] We are thus justified in addressing the divergence of the three meters as regards the relative frequency of the major types.

Of particular interest, the divergent metrical development in Old Norse and Old Saxon was predicated on the same grouping (but implemented in the opposite directions), types A and C on the one hand and type B on the other. A question arising then concerns the recurrent grouping of the three major types in the two metrical traditions, as opposed to the other two logically possible two-way groupings, (1) type A versus types B and C, and (2) types A and B versus type C. The occurrence of exactly the same pattern in the two distinct meters would suggest that the grouping at issue was far from coincidental; rather it seems more likely that the metrical transformations in question were

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[3] The chi-square (significance) test is designed to determine whether given two sets of categorical variables (such as the poems on the one hand and the major metrical types on the other), as represented in the rows and columns of a contingency table, are independent of each other (assumed as the null hypothesis); in other words, the test confirms or rejects the null hypothesis that there is no association between rows and columns. The test is performed by comparing their actual frequencies with their expected counterparts, calculating the chi-square statistic (there are several different methods of calculation corresponding to distinct types of chi-square), and determining the probability (p-value) with which the resultant value is likely to be obtained. When the p-value is below 0.05, we may be justified to reject the null hypothesis of random association and conclude alternatively that the given sets of variables are significantly associated.

based on some structural property that is common to types A and C, to the exclusion of type B. To put it the other way round, there was plausibly a structural basis for singling out type B in distinction from types A and C.

A cursory look at 1 shows that types A and C have the cadence lift + drop in common (*fallend* in Sievers' terms), in contrast to type B, which ends in the reverse pattern, drop + lift (*steigend*). We may accordingly be led to assume that the grouping involved was motivated by the structural opposition in the cadence form, lift + drop versus drop + lift. In this light, the distribution pattern characteristic of *fornyrðislag* may be generalized by an increasing preference for the cadence lift + drop: in *fornyrðislag*, the verses ending in lift + drop are favored at the expense of those with the reverse cadence structure. Inasmuch as the two minor types, types D and E, also do not share the favored cadence, their occurrence is also curtailed correspondingly (table 1 above).

In the next section, we see that the cadence lift + drop is not only favored as a verse-final property in general, as shown above, but more importantly it figures as a highly privileged ending of the b-verse and hence of the line, the metrical unit standing immediately above the verse.

3. Preference for the Cadence / × in the B-Verse.
3.1. Type B (× / × /).

In the previous section, we saw that type B is extremely under-represented in *fornyrðislag* in favor of types A and C. The greatly diminished use of type B, however, is subject to a further restriction, namely the distinction between the a-verse and the b-verse. As illustrated in table 2, type B occurs more frequently in the a-verse. This verse distribution stands in sharp contrast to the situations obtained in *Beowulf* and the *Heliand*, in which type B is used with greater preference in the b-verse.

	A-verse		B-verse		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	329	73.3	120	26.7	449	100
Beowulf	308	29.4	739	70.6	1047	100
Heliand	751	23.9	2390	76.1	3141	100

Table 2. Distribution of type B in *fornyrðislag*,
Beowulf, and the *Heliand*.

As it turns out, *fornyrðislag* is diametrically opposed to *Beowulf* and the *Heliand* with respect to the distribution pattern of type B: while in the latter two works, type B appears overwhelmingly in the b-verse, exactly the converse obtains in *fornyrðislag*, in which type B occurs with a similarly outstanding frequency in the a-verse. Furthermore, given the broadly comparable corpus size of *fornyrðislag* verse and *Beowulf* (see table 1), it can be said that the radical decrease of type B is primarily brought about by that in the b-verse, whereas the use in the a-verse remains hardly affected. Therefore, it may follow that type B is avoided principally in the b-verse, rather than falling out of favor in general terms. Since type B is the only major type that ends in drop + lift, we may restate that this cadence tends to be avoided in the b-verse in *fornyrðislag*. The avoidance of the verse-final drop + lift in the b-verse in turn may be explained as a consequence of the ascendancy of the reverse configuration lift + drop as a favored cadence for the b-verse in *fornyrðislag*.

3.2. Type C (×/ / ×).

Depending on the syllable quantities of the first and second lifts, type C is divided into three variants, Sievers' (1893:§16) types C1 (x…P#Px), C2 (x…px#Px), and C3 (x…P#px). Type C1 is obtained through realization of both lifts by a long stressed syllable (P); type C2 is distinguished by resolution of the first lift, that is, realization by the sequence of a short stressed syllable and an unstressed counterpart (px); and type C3 is realized when the second lift is associated with a short stressed syllable alone (p) through suspension of resolution and the following unstressed syllable consequently constitutes a verse-final drop.

Table 3 shows the distribution of the three variants of type C (C1, C2, and C3) in *fornyrðislag*, *Beowulf*, and the *Heliand*, as exemplified in 2.

	A-verse		B-verse		Total	
	Count	%	Count	%	Count	%
Fornyrðislag						
C1 x…P#Px	73	43.2	96	56.8	169	100
C2 x…px#Px	46	12.8	313	87.2	359	100
C3 x…P#px	158	59.4	108	40.6	266	100
Beowulf						
C1 x…P#Px	13	11.2	103	88.8	116	100
C2 x…px#Px	20	14.8	115	85.2	135	100
C3 x…P#px	46	17.4	219	82.6	265	100
Heliand						
C1 x…P#Px	41	22.0	145	78.0	186	100
C2 x…px#Px	107	22.8	363	77.2	470	100
C3 x…P#px	53	11.6	402	88.3	455	100

Table 3. Distribution of the three variants of type C in *fornyrðislag*, *Beowulf*, and the *Heliand*.

(2) *Hym* 6.3 Ef, vinr, velar (C1)
    Sg 15.3 um borin Buðla (C2)
    Vsp 57.7 leicr hár hiti (C3)
    Beo 1202a Þone hring hæfde (C1)
    Beo 2570a tō gescipe scyndan (C2)
    Beo 1233a druncon wīn weras (C3)
    Hel 1871a thene uueg uuîsit (C1)
    Hel 331a te thera magað minnea (C2)
    Hel 200a uuas im fel fagar (C3)

Differentiating *fornyrðislag* most sharply from the meters of *Beowulf* and the *Heliand* is the demonstrably low frequency of the verse form x…P#px (C3) in the b-verse, in contrast to its predominant occurrence in the b-verse in the West Germanic meters. With the p-value < 0.001 resulting from chi-square test for comparison between *fornyrðislag* and *Beowulf* on the one hand and *fornyrðislag* and the *Heliand* on the other,

we may conclude that the distribution of x…P#px in *fornyrðislag* is significantly different from those in *Beowulf* and the *Heliand*. We are then required to provide an explanatory account of this unique feature of *fornyrðislag*.

A further notable distinguishing property of *fornyrðislag* is the graded distribution of the three type C variants: while the variant with suspension of resolution (x…P#px; C3) is attested more frequently in the a-verse, the one with the resolved first lift (x…px#Px; C2) occurs overwhelmingly in the b-verse; and between these two extremes is located the sequence with both lifts realized by a long stressed syllable (x…P#Px; C1), which shows a weak preference for the b-verse, a pattern more or less contrary to that of the unresolved variant (x…P#px; C3). In more rigorous terms, the distribution patterns of these three variants are significantly distinguished from each other, given the p-value of less than 0.001 by chi-square test. By contrast, the two West Germanic meters do not show anything approaching such a neatly graded preference pattern. More specifically, as far as *Beowulf* is concerned, the distribution of type C2 is indistinguishable from that of type C1 (p = 0.400) on the one hand and that of type C3 (p = 0.517) on the other. In the case of the *Heliand*, while significantly differing from type C3 (p < 0.001), type C1 is non-distinct from type C2 (p = 0.841).

The key to an understanding of the issue hinges on the b-verse's preference for the cadence lift + drop in *fornyrðislag* that I identified above. Although type C regardless of its varied manifestations ends in the preferred cadence in question (/ ×), it seems to differ in relative degrees of preference depending on its particular realizations. As substantiated in Suzuki 1996 and Suzuki 2004, the prototypical, hence optimal, realization of the lift is the long stressed syllable (P), or more technically the monosyllabic and bimoraic unit. On this ground, its exclusive association with the short stressed syllable (p)—monosyllabic and monomoraic—through suspension of resolution is of insufficient prominence and must therefore be valued as less optimal. Accordingly, the sequence x…P#px is preferred in the b-verse to a lesser extent and occurs with a correspondingly lower incidence. On the other hand, the a-verse does not share the strong predilection for the cadence at issue. The overall consequence is that the variant x…P#px occurs more frequently in the a-verse than in the b-verse.

We are, in turn, confronted with the differential preference for the other two variants, both of which have the second lift realized optimally by the long stressed syllable in accord with its prototypical association. Why are these two variants differentiated in the way they are, then, and why are they not treated indiscriminately in terms of distribution pattern as in the West Germanic meters?

At this point, the configuration of the two consecutive lifts in type C comes into the picture. The second of the two lifts occurring in succession is precluded from its full prominence because of the immediately preceding more saliently perceived entity, the first lift (compare Sievers 1893:§9.3, §171.4, Cable 1974:65–74, Suzuki 1996:187). By virtue of this syntagmatically motivated attenuating effect, then, the second lift of type C tends to be denied its otherwise optimal realization by the long stressed syllable. Accordingly, the variant x…P#Px is the least valued among the three variants and occurs with the lowest frequency throughout the three metrical traditions (table 3 above). As a strategy for avoiding this mismatch and implementing instead a more appropriate realization, the second lift is rendered susceptible to suspension of resolution in the degrees unprecedented in other metrical types (Suzuki 1996:231–232): by exclusive association with the short stressed syllable, the second lift receives a lowered prominence in accord with the syntagmatically motivated constraint. The unresolved variant x…P#px thus occurs with by far the highest frequency in *Beowulf* (table 3 above).

In *fornyrðislag*, however, a totally different, new factor comes into play, namely the predilection for the cadence lift + drop, as repeatedly referred to so far in this paper. Since this preference is couched in terms of abstract metrical structure (that is, a concatenation of a lift and a drop) and hence remains unspecified according to context, it is not conditioned by the immediately preceding lift and it accordingly overrides the traditional force for associating the second lift of type C with the short stressed syllable through suspension of resolution. The optimal cadence lift + drop demands type C of its prototypical realization by the string of a long stressed syllable and an unstressed one, as elsewhere.

While the verse-final string px no longer counts as an optimal realization of the cadence of type C in *fornyrðislag*, the relative attenuation of the second of the two lifts occurring in succession does not cease to exist, as it is presumably based on general prosodic properties. Therefore, where the second lift is realized fully by the long stressed

syllable in defiance of its attenuated prominence but at the same time in conformity to the optimal realization of the cadence lift + drop, the preceding first lift is more likely to receive a metrical boost in accordance with the relative difference in prominence involved. The extra prominence on demand is provided by association with a disyllable through resolution: by resolution, the lift is realized by a disyllabic sequence as opposed to a monosyllable. Because of the resultant extra syllable quantity, that is, disyllabic/bimoraic, the lift in question manifests a greater prominence. The higher incidence of the variant x…px#Px (C2) than x…P#Px (C1) is thus subject to explanation: this is a consequence of adding extra prominence to the first lift, rather than subtracting prominence from the second lift that gives rise to the variant x…P#px. In either case, the underlying motivation is the same but the means are different: to encode prosodic differences between the two consecutive lifts by distinct metrical devices, suspension of resolution on the second lift on the one hand and resolution on the first lift on the other. In this way, on account of the special configuration—clashing lifts—obtained in type C, the full realization of the second lift as part of the desirable cadence materializes when the first lift is resolved. Therefore, the variant x…px#Px (C2) counts as the optimal form for realizing the cadence in question and appears in the b-verse with the maximal frequency in *fornyrðislag*.

Since resolution on the first lift of type C is motivated by the association of the second one with a long stressed syllable, this metrical device is unlikely to be implemented when the second lift is realized by a short stressed syllable. The combination of resolution on the first lift and suspension of resolution from the second counterpart would be simply redundant (compare Sievers 1893:§171.4). As it is, there are only two examples of the sequence x…px#px in the corpus: *Vsp* 14.2 *í Dvalins liði* and *Hdl* 18.6 *oc Frecar baðir*.

To recapitulate, while uniformly ending in the cadence lift + drop, type C is divided into the three variants in regard to the realization of their constituent lifts in traditional versecraft. With the privileging of the same cadence for the b-verse in *fornyrðislag*, these three variants were subject to re-evaluation and thereupon underwent redistribution in terms of their usage pattern. The variant x…P#px (C3), which had been most commonly used in earlier practice, was suppressed in the b-verse because of the less than optimal prominence of the second lift, monomoraic (p)

rather than bimoraic (P). Instead, the variant x…px#Px (C2) was radically increased and used overwhelmingly in the b-verse, since in it the prosodic potential of the second lift was assured of its full realization by virtue of the resolution on the immediately preceding lift. The variant x…P#Px (C1) was rated at a midpoint between the above two: while the second lift was given a bimoraic value through association with the long syllable (P), it was precluded from its full realization in conflict with the preceding, equally monosyllabic, first lift. In this way, the scale of optimality for realization of the second lift as part of the targeted cadence is correlated to the graded relative frequency of occurrence in the b-verse.

3.3. Type A (/ × / ×).

In the preceding two sections, I examined how two of the three major metrical types were reconstituted and reorganized in terms of their realization and distribution by the emergent preference for the cadence lift + drop in the b-verse. Now we turn to consider the remaining major type, type A. Since one of its variants, type A3 (× × / ×), is virtually limited to the a-verse on account of the constraint on alliteration, it has to be excluded from our examination below.[4] At issue, therefore, is type A1.[5]

This type, however, is involved in wide-ranging variation particularly in regard to the realization of the first drop in Old Germanic meter in general (see, for example, Suzuki 1996:149–158, 2004:29–66). Most notably, the larger size and greater prominence of the first drop is correlated to the more frequent occurrence in the a-verse. This regularity, also applicable to *fornyrðislag*, thus constrains our approach to looking into the effects (if any) that the emergent cadence brought about on the use of type A1. Specifically, we should concentrate on by far the most frequent variant of type A1, namely Px#Px, the first drop of which is least prominent and therefore lacks extra properties that are conducive to a greater demand for appearing in the a-verse.

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[4] In the b-verse, the first lift must alliterate and the second one may not.

[5] Since type A2 (/ \ / ×; / × / \; / \ / \) can be viewed as a variant of type A1 with extra prominence added to a drop, I do not distinguish between these two in the following discussion.

Table 4 illustrates the varying distribution of the sequence Px#Px in *fornyrðislag* verse, *Beowulf*, and the *Heliand*, as exemplified in 3.

	A-verse		B-verse		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	228	21.8	819	78.2	1047	100
Beowulf	376	43.7	485	56.3	861	100
Heliand	337	36.4	588	63.6	925	100

Table 4. Distribution of Px#Px (type A) in *fornyrðislag*,
Beowulf, and the *Heliand*.

(3) *Hym* 24.5 Søcþiz síðan
 Beo 11a gomban gyldan
 Hel 187a lêra lêstin

A chi-square test shows that the distribution pattern of *fornyrðislag* is significantly different from that of *Beowulf* and that of the *Heliand*, respectively. With the p-value of less than 0.001 in both cases, we are allowed to reject the null hypothesis that the distribution pattern does not significantly differ between the two bodies of verse under consideration (*fornyrðislag* and *Beowulf* on the one hand and *fornyrðislag* and the *Heliand* on the other).

With the distributional difference thus statistically supported, I conclude that the sequence Px#Px shows a significantly stronger preference for the b-verse in *fornyrðislag* verse than in the other two works. This enhanced association of the sequence Px#Px with the b-verse can in turn be attributed to the cadence lift + drop that has been accorded a privileged status for the composition of the b-verse in *fornyrðislag*. In this way, type A has been partly reorganized in its usage in harmony with the emergent preferred cadence lift + drop in the b-verse in the meter: unless special conditions favorable to occurrence in the a-verse apply, type A is increasingly used in the b-verse by virtue of its inherent cadence lift + drop.

This transformation not only concerns the relative proportion between the a-verse and the b-verse, as we have seen; it also bears on absolute occurrences of type A in the b-verse. The change comes to light most clearly when we compare the relevant figures between the three

works. As may be recalled, the corpus size of *fornyrðislag* verse and *Beowulf* is virtually the same; furthermore, that of the *Heliand* almost equals those of *fornyrðislag* verse and *Beowulf* combined. In this light, the number of occurrences in the b-verse in *fornyrðislag* proves to be outstandingly larger than in the other two. Of no less significance, the frequency in the a-verse is lower in *fornyrðislag* than in either work. The privileged use of the cadence lift + drop in the b-verse thus leads to the conspicuous presence of Px#Px there and conversely its marked under-representation in the a-verse.

At this point, a further variant of type A may be adduced in support of my claim that type A is reorganized in its use by the privileged cadence lift + drop for the b-verse in *fornyrðislag*. At stake here is the variant PxSx (table 5), that is to say, a compound word that constitutes a verse on its own, as exemplified in 4.

	A-verse		B-verse		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	13	25.5	38	74.5	51	100
Beowulf	127	63.2	74	36.8	201	100
Heliand	26	33.8	51	66.2	77	100

Table 5. Distribution of PxSx (type A) in *fornyrðislag*,
Beowulf, and the *Heliand*.

(4) *Hym* 2.4 miscorblinda
   Beo 23a wilgesīþas
   Hel 1780a eldibarnun

In *fornyrðislag*, the variant PxSx displays a similar distribution pattern to the variant Px#Px treated above. In fact, a chi-square test results in the p-value 0.531, meaning that there is no significant differ-ence between the two variants in terms of verse distribution. This stands in sharp contrast to *Beowulf* (but not to the *Heliand* this time), in which the two variants are distributed in opposite ways: the difference proves to be statistically significant with the p-value < 0.001. As argued in Suzuki 1996:346, the predominance of the variant PxSx in the a-verse in *Beowulf* is attributed to the marked status of the a-verse in contrast to the unmarked b-verse; since the realization of the lift by a secondary-stressed

syllable is obviously exceptional in formal and quantitative terms, this irregular property tends to be carried by the marked a-verse.

By contrast, *fornyrðislag* follows a distinct rule of its own, the ubiquitous cadence lift + drop in the b-verse. In terms of metrical structure (/ × / ×), the variant PxSx is no different from Px#Px: both end in the increasingly favored cadence (/ ×). Furthermore, since the first drop of the variant PxSx is realized by a single unstressed syllable that is not in word-initial position, the sequence PxSx counts as a minimal structure of type A1 that is equivalent to Px#Px. Without any conditions conducive to larger occurrences in the a-verse, then, the variant PxSx is treated in the same way as the variant Px#Px, so that both are used with greater preference in the b-verse.

3.4. Type A with Anacrusis (× / × / ×).

Anacrusis is an optional element that appears at the head of a verse that begins with a lift. Accordingly, only types A, D, and E are eligible for anacrusis. Given by far the highest incidence of type A and the extremely low frequency of the latter two minor types (see table 1), anacrusis is expected to occur only on type A in large numbers. Our primary concern in the discussion below therefore is with type A with anacrusis.

Table 6 shows the distribution of type A with anacrusis in *fornyrðislag* eddic poetry, *Beowulf*, and the *Heliand*, as exemplified in 5.

	A-verse		B-verse		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	12	42.9	16	57.1	28	100
Beowulf	38	82.6	8	17.4	46	100
Heliand	709	64.3	394	35.7	1103	100

Table 6. Distribution of type A with anacrusis in
fornyrðislag, *Beowulf*, and the *Heliand*.

(5) *Vkv* 33.9 né brúði minni
     Beo 2681a geswāc æt sæcce
     Hel 263a ne forhti thu thînun ferhe

While uncommon and still less frequent than in *Beowulf*, anacrusis should not be excluded from *fornyrðislag* on categorical grounds despite

some metrists' claims to the contrary (see, for example, Russom 1998:49, 209). The attestation of anacrusis in a fairly wide range of poems would make unlikely its characterization as a corruption or stylistic idiosyncrasy attributable to a few exceptional poems; rather we should view it as a marginal yet legitimate verse form in *fornyrðislag*.[6] Moreover, since anacrusis does not count as an autonomous metrical position in traditional meter, its use does not contravene the maximality of four-positions that seems to be required with greater stringency in *fornyrðislag*. Of further interest, *fornyrðislag* displays more frequent occurrences of anacrusis than *Beowulf* as far as independent words, as opposed to prefixes, are concerned: in *Beowulf*, we find only nine and five such instances (type A1 with anacrusis) in the a-verse and b-verse, respectively.[7] Rather than rule out anacrusis categorically from the metrical system as Russom (1998) did, I would therefore assume that the traditional device was still in practice, although extremely marginalized primarily for the reason that Russom (1998:49) adduced, namely loss of prefixes, the prototypical realizations of anacrusis (Suzuki 1996:315–322). The peripheral use (in terms of traditional practice), however, was retained in the Norse meter.

   With anacrusis having been acknowledged as a legitimate device, let us consider its use in *fornyrðislag*. Again, the Norse meter is distinguished from both *Beowulf* and the *Heliand* by the reverse distribution pattern: while in the latter two poems, type A with anacrusis occurs predominantly in the a-verse, it appears in the b-verse with a slightly higher frequency in *fornyrðislag* poetry. The observed difference is statistically significant: with the p-value less than 0.001 by chi-square test, *fornyrðislag* and *Beowulf* display a distinct distribution pattern for type A with anacrusis; and the p-value 0.02 resulting from the same test confirms that *fornyrðislag* is also distinct from the *Heliand* by the same parameter. The observed reversal in distribution, however, comes as no surprise in the light of our foregoing considerations. *Fornyrðislag* increasingly yields to the demand to use the cadence lift + drop in the b-verse. Since type A with anacrusis ends in this privileged configuration,

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[6] Thirteen of the total of twenty poems attest anacrusis: *Þrk, Vkv, HH, HH.II, Grp, Gðr I, Sg, Gðr II, Gðr III, Od, Ghv, Rþ,* and *Hdl.*

[7] *Beo* 25a, 107a, 109a, 414a, 1248a, 1549a, 1711a, 1987a, 2697a; 93b, 666b, 1223b, 2247b, 2592b.

this verse form, too, succumbs to an enhanced presence in the b-verse. It may therefore follow as a matter of course that the verse form in question is redistributed so that it may no longer appear predominantly in the a-verse. Thus, the emergent canonical cadence for the b-verse overrides the traditional rule for anacrusis that induces its occurrence in the a-verse by virtue of the extra metrical element involved, which is more compatible with the relatively greater prominence of the a-verse (Suzuki 1996:344, 347).

Of particular interest, the innovation of the dominant use of type A with anacrusis in the b-verse in *fornyrðislag* stands in contrast to the novel use established for type B, treated in section 3.1 above, whereby it is used overwhelmingly in the a-verse. This contrast readily yields to an explanatory account. In structural terms, type A with anacrusis and type B constitute a minimal pair: both have the first four metrical positions in common, namely × / × /; the only difference is the presence versus absence of × in verse-final position. The opposition between these otherwise identical two configurations is thus ascribed to the determining role that the cadence lift + drop assumes in organizing verse distribution in *fornyrðislag*. The presence of the verse-final drop after a lift creates the cadence highly valued for the b-verse, whereas its absence results in the cadence drop + lift that is maximally opposed to the optimal counterpart. Therefore, type A with anacrusis, which was a privilege of the a-verse, is dissociated from that privileged distribution pattern; by contrast, type B is disfavored in the b-verse by virtue of its diametrically opposite cadence structure.

As pointed out at the outset of this section, anacrusis is largely confined to type A. Yet there are several examples of type D with anacrusis, whereas there seems to be no instance of anacrustic type E in *fornyrðislag* verse. These rare anacrustic type D verses, as exemplified in 6, are distributed as shown in table 7.

(6) *Hm* 2.5 er fát fornara
     Beo 1554a gewēold wīgsigor
     Hel 5410a that folc frâgoian

	A-verse		B-verse		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	3	60.0	2	40.0	5	100
Beowulf	17	94.4	1	5.6	18	100
Heliand	29	59.2	20	40.8	49	100

Table 7. Distribution of type D with anacrusis in
fornyrðislag, *Beowulf*, and the *Heliand*.

As it turns out, the distribution pattern of type D with anacrusis is contrary to that of type A with anacrusis (table 6): the a-verse dominates at the expense of the b-verse. The preference for the a-verse thus makes *fornyrðislag* indistinguishable from the West Germanic meters in this respect. This state of affairs is confirmed by Fisher's exact test (two-tailed): with the p-value of 0.107, *fornyrðislag* is not significantly different from *Beowulf*; nor can it be distinguished from the *Heliand*, given the p-value of 1.[8]

We may naturally ask why type D with anacrusis is immune to the kind of reorganization that affects type A with anacrusis. The question can readily be answered by pointing out that type D does not have the canonical cadence lift + drop: it ends either in the sequence heavy drop + drop (\ ×) or drop + heavy drop (× \), as shown in 1, section 1 above. In the absence of the crucial condition of lift + drop in verse-final position, then, type D with anacrusis falls outside the scope of the increased preference for the cadence lift + drop and therefore its verse distribution pattern remains unchanged.

4. Alliteration and Verse Reorganization.

One of the strict rules of Old Germanic meter concerns use of alliteration: as mentioned briefly in section 3.3 above, the a-verse allows for

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[8] Fisher's exact test also determines significance of association between two sets of categorical variables. While the computational bases are different, the logic of the test is essentially the same as that of the chi-square test referred to in note 3 above. Of particular importance, the test is largely complementary to the chi-square: while the chi-square test is used for large-sample data and thus inappropriate when any of the cells of a 2 × 2 contingency table is smaller than 5, as with our current data of type D with anacrusis, Fisher's test is devised precisely for small-sized data.

single and double alliteration (schematically represented, aa, ax, and xa; a = alliterating lift; x = nonalliterating or suppressed lift), whereas the b-verse is compatible only with single alliteration (ax). A selection of a dominant pattern of alliteration for a particular verse form in the a-verse depends heavily on its configurational properties, namely the syntagmatic and paradigmatic relations of its constituent metrical positions (Suzuki 1996:277–283, 2004:237–239). Moreover, strong preference for double alliteration is correlated to rare appearance in the b-verse (Suzuki 1996:342, 383). Of the four metrical types (types A, aA, B, and C) that have figured prominently in the foregoing discussion, only type aA is closely associated with double alliteration in traditional practice, as attested in *Beowulf*. In it, type A with anacrusis is virtually limited to the a-verse with double alliteration and almost non-existing in the b-verse (Suzuki 1996:316).

Given the radical redistribution that this type yields to in *fornyrðislag* as we have seen in section 3.4 above, we would expect the traditional rule for determining alliteration to have lost validity for the reconfigured type A with anacrusis in *fornyrðislag*. The dominant occurrence of this type in the b-verse would have run counter to the original requirement for double alliteration in the a-verse that largely precludes appearance in the b-verse. In other words, the regular presence in the b-verse would have invalidated the original demand for double alliteration in the a-verse. By contrast, the other three types are used in the b-verse with a greater frequency (if any) than in the a-verse in earlier work (*Beowulf*). A lower frequency in the a-verse, however, does not necessarily entail a predilection for single alliteration: specific alliteration patterns are determined by particular configurational properties constitutive of individual type variants. Therefore, a further increase in *fornyrðislag* in the b-verse at the expense of appearance in the a-verse for types A and C on the one hand and the shift of the major domain of use from the b-verse to the a-verse for type B on the other would seem unlikely to have resulted in a conflict comparable to what arose in the case of type aA: the original alliteration pattern of a given verse form in the a-verse would scarcely have been affected by either reorganization.

As it turns out, the alliteration pattern of the four types in question in *fornyrðislag* is treated largely in accord with our prediction, as shown in tables 8 through 11.

	Single alliteration (ax)		Double alliteration (aa)		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	166	73.0	61	27.0	227	100
Beowulf	263	69.9	113	30.1	376	100
Heliand	166	47.8	181	52.2	347	100

Table 8. Alliterative pattern in the a-verse of type A (Px#Px) in *fornyrðislag*, *Beowulf*, and the *Heliand*.

	Single alliteration (ax)		Double alliteration (aa)		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	5	41.7	7	58.3	12	100
Beowulf	4	10.5	34	89.5	38	100
Heliand	94	13.3	615	86.7	709	100

Table 9. Alliterative pattern in the a-verse of type A with anacrusis in *fornyrðislag*, *Beowulf*, and the *Heliand*.

	Single alliteration (ax)		Double alliteration (aa)		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	264	80.2	65	19.8	329	100
Beowulf	218	70.8	90	29.2	308	100
Heliand	504	67.1	247	32.9	751	100

Table 10. Alliterative pattern in the a-verse of type B in *fornyrðislag*, *Beowulf*, and the *Heliand*.

	Single alliteration (ax)		Double alliteration (aa)		Total	
	Count	%	Count	%	Count	%
Fornyrðislag						
C1 x…P#Px	39	53.4	34	46.6	73	100
C2 x…px#Px	18	39.1	28	60.9	46	100
C3 x…P#px	104	65.8	54	34.2	158	100
Beowulf						
C1 x…P#Px	4	30.8	9	69.2	13	100
C2 x…px#Px	5	25.0	15	75.0	20	100
C3 x…P#px	34	73.9	12	26.1	46	100
Heliand						
C1 x…P#Px	23	56.1	18	43.9	41	100
C2 x…px#Px	47	43.9	60	56.1	107	100
C3 x…P#px	39	73.6	14	26.4	53	100

Table 11. Alliterative pattern in the a-verse of type C in *fornyrðislag*, *Beowulf*, and the *Heliand*.

Applying chi-square test or Fisher's exact test (depending on the data size concerned) for a comparison of the patterns between *fornyrðislag* verse and *Beowulf* on the one hand and between the *Heliand* and *Beowulf* on the other results in the p-values in table 12.

Type	P-value (*fornyrðislag* and *Beowulf*)	P-value (*Heliand* and *Beowulf*)
Type A (Px#Px)	0.386	less than 0.001
Type aA	0.027	0.807
Type B	less than 0.001	0.244
Type C (x…P#Px)	0.228	0.202
Type C (x…px#Px)	0.400	0.114
Type C (x…P#px)	0.302	1

Table 12. The p-values of chi-square or Fisher's exact test for comparing *fornyrðislag* and *Beowulf* as well as the *Heliand* and *Beowulf* with respect to alliterative pattern of types A, aA, B, and C.

Thus, types aA and B display a significant difference between *fornyrðislag* verse and *Beowulf* with respect to the alliterative pattern in the a-verse. Type aA no longer shows preference for double alliteration in the a-verse in *fornyrðislag*: it is more or less evenly divided between single and double alliteration. This is precisely what I predicted to arise: the marked predilection for double alliteration is simply obliterated by radically increased occurrences of type A with anacrusis in the b-verse; as a consequence, this configuration becomes neutral in terms of alliteration pattern. Of related interest, the *Heliand* displays no significant difference in this regard: the still dominant occurrence of type A with anacrusis in the a-verse (table 6 above) would successfully have maintained the earlier practice of favoring double alliteration for this verse form.

In comparison, type B's preference for single alliteration has been strengthened in *fornyrðislag*. This change is not specifically expected, but it is far from contradictory. By contrast, the *Heliand* is characterized by a slight increase in double alliteration, a general line of development common to types A and aA among others (compare Suzuki 2004:236, 238, 339–340). The resultant greater degree of association with single alliteration in *fornyrðislag* does not constitute a disruption of the original regularity according to which type B is typically realized in the a-verse with single alliteration.

I would surmise that the strengthening of single alliteration might have taken place as a reaction to type A with anacrusis. As observed in section 3.4 above, types aA and B constitute a minimal pair that stood in diametrical opposition in terms of distribution in earlier meter. The pair was subsequently involved in the reorganization that was implemented in reverse manners. Earlier, type aA occurred predominantly in the a-verse and realized double alliteration, whereas type B was used abundantly in the b-verse and showed marked preference for single alliteration in the a-verse. By sharp contrast, in *fornyrðislag*, type aA is dissociated from its earlier dependence on the a-verse and occurs in the b-verse more frequently, while type B1 is avoided in the b-verse and instead privileged greatly in the a-verse. Correspondingly, type aA is no longer capable of inducing double alliteration in the a-verse; rather, it shows no particular preference for alliteration pattern, as we saw above. In this light, the strengthened association of type B with single alliteration in the a-verse can be viewed as a consequence of marking out the opposition between

the two types in question in a yet clearer way by manipulating given resources in harmony with the inherited regularity. Now that type aA is indifferent to the distinction in alliterative pattern at the cost of the predilection for double alliteration, the traditional opposition between the two types suffers from a lesser degree of distinguishability. By strengthening the traditional preference for single alliteration on the part of type B, the original opposition between the two metrical types can be preserved more fully if not as optimally as before.

Of particular importance in the above discussion is the contrastive pattern of development that *fornyrðislag* verse and the *Heliand* went through in the treatment of the two types at issue. As far as type aA is concerned, *fornyrðislag* diverged from the earlier practice, whereas the *Heliand* retained the traditional preference for double alliteration. As regards type B, the two meters developed in the opposite directions: while single alliteration increased in *fornyrðislag*, it decreased in the *Heliand*. These divergent transformations would make it most plausible to understand the individual changes involved as specific metrical reorganizations (as proposed above) rather than attribute them to general processes of stylization or degeneration.

At this point, further support can be adduced for the proposed view that the loss of preference of type aA for double alliteration in *fornyrðislag* was motivated by its increased presence in the b-verse contingent on the optimal cadence lift + drop. At issue is type D with anacrusis, exemplified in 6 above. As noted in section 3.4, anacrusis rarely applies to metrical forms other than type A in *fornyrðislag* as well as elsewhere. These exceptional verses that are attested in the corpus nonetheless deserve consideration. Table 13 illustrates their alliterative pattern in *fornyrðislag* verse and *Beowulf*.

	Single alliteration (ax)		Double alliteration (aa)		Total	
	Count	%	Count	%	Count	%
Fornyrðislag	0	0	3	100	3	100
Beowulf	0	0	17	100	17	100

Table 13. Alliterative pattern in the a-verse of type D with anacrusis in *fornyrðislag* and *Beowulf*.

With the p-value of 1, two-tailed Fisher's exact test confirms that there is no significant difference between the two distribution patterns. This means that type aD is associated with double alliteration in *fornyrðislag* as much as in *Beowulf*. Type aD thus diverges from type aA in alliterative patterning in *fornyrðislag*. The conformity of type aD to the traditional practice is subject to an explanatory account. In the absence of the privileged cadence lift + drop in this configuration, it is not eligible for increased use in the b-verse: in actuality, type aD occurs in the a-verse predominantly in *fornyrðislag*, too, as shown in table 7 above. As may be recalled, the p-values of 0.107 and 1 resulting from Fisher's exact test indicate that *fornyrðislag* does not significantly differ from *Beowulf* and the *Heliand*, respectively, as far as type aD's preference for the a-verse is concerned.

Thus, still closely associated with the a-verse in *fornyrðislag*, type aD lacks the condition for reversing its original alliterative pattern that holds for type aA. The divergent treatment of these closely related metrical configurations in *fornyrðislag* thus confirms the plausibility of my explanation predicated on the optimal cadence lift + drop for the b-verse.

5. Conclusions and Implications for the Origins of *Dróttkvætt*.

Fornyrðislag is sharply distinguished from its West Germanic cognate meters as exemplified in *Beowulf* and the *Heliand* in regard to the distribution of its major metrical types, A, B, and C. First, the minimal and prototypical variant of type A, Px#Px, occurs in the b-verse with a conspicuously higher frequency than in the a-verse to the extent that is unparalleled in the Old English and Old Saxon meters (section 3.3). Second, the distribution pattern of another variant of type A, PxSx, which is minimally distinct from Px#Px, runs counter to that in *Beowulf* by the marked preference for the b-verse (section 3.3). Third, in the *fornyrðislag* meter, type A with anacrusis (type aA) displays the distribution pattern that is diametrically opposed to those of the West Germanic counterparts by appearing more frequently in the b-verse (section 3.4). Fourth, exactly the opposite transformation occurred on type B, which tends to be avoided in the b-verse in favor of the a-verse in *fornyrðislag*, the distribution pattern precisely opposite to that in *Beowulf* and the *Heliand* (section 3.1). Fifth, type C was subject to a radical redistribution in *fornyrðislag*, whereby its three major variants are graded with regard to their frequencies of use in the a-verse versus the b-verse, whereas in

the West Germanic meters these variants all occur in the b-verse with outstandingly high incidences (section 3.2).

These divergent metrical transformations unique to *fornyrðislag* are subject to a unitary, principled account when we assume that the sequence lift + drop was identified as a privileged cadence for the b-verse: in this light, the changes in question can all be understood to have been implemented in order to make maximal use of this optimal cadence, which served as an underlying structural motivation.[9]

Through the above metrical reorganizations that were thus induced by the ascendancy of the sequence lift + drop as an optimal cadence for the b-verse in *fornyrðislag*, nearly eight out of every ten instances in the b-verse end in lift + drop, as shown in table 14 below—types A and C embody verses provided with the optimal cadence in question, in contrast to all other types, including those with less than or more than the four canonical metrical positions as well as verses of ambiguous scansion (see note 2 above).[10]

The attested percentage in the b-verse is higher than that in the a-verse with a statistical significance, as substantiated by chi-square test (p-value < 0.001). The conspicuous presence of verses ending in lift + drop in the b-verse proves to be still more outstanding when compared with the situation in *Beowulf* and the *Heliand*: the p-value of less than 0.001 by chi-square test demonstrates that the proportion of types A and C to others in the b-verse is significantly different from those in *Beowulf* and the *Heliand*. No less important, this difference is of a far more

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[9] At this point, we are confronted with a fundamental question: why did the cadence lift + drop come to be favored in the first place? Although this issue awaits fuller treatment in future investigation, I would speculate that the privileging of the trochaic cadence at issue was motivated by an interplay of the preponderance of the foot lift + drop as a constituent of the most frequent type (type A), as evidenced in *Beowulf* (table 1), and of the increasing regularization of word forms toward P(x) in Old Norse through syncope, encliticization, loss of prefixes, and non-development of svarabhakti vowels among other phonological and morphological processes (compare Lehmann 1956:80–93 and Russom 1998:209).

[10] Excluded from the data are the verses containing biblical names in the *Heliand* and hypermetric verses in *Beowulf* and the *Heliand* because of the metrical uncertainties for the former (see Suzuki 2004:27) and the metrically distinct status for the latter (Suzuki 1996:355–364, 2004:295–323).

outstanding order than that for the a-verse: as regards the distribution pattern of the a-verse, while *fornyrðislag* and the *Heliand* display a significant difference (p-value < 0.001), *fornyrðislag* and *Beowulf* do not differ with a statistical significance (p-value = 0.359). Thus, *fornyrðislag* is markedly distinguished from the West Germanic meters by its strong preference for lift + drop in the b-verse alone, which may therefore be identified as a unique innovation of *fornyrðislag*.

	Types A + C		Others		Total	
	Count	%	Count	%	Count	%
Fornyrðislag						
a-verse	2056	70.1	878	29.9	2934	100
b-verse	2259	77.2	667	22.8	2926	100
Beowulf						
a-verse	2256	71.1	915	28.9	3171	100
b-verse	1722	54.3	1449	45.7	3171	100
Heliand						
a-verse	3553	64.5	1954	35.5	5507	100
b-verse	2817	50.0	2822	50.0	5639	100

Table 14. Proportion of verses ending lift + drop (types A and C) to those without in *fornyrðislag*, *Beowulf*, and the *Heliand*.

I would conjecture that this privileged cadence for the b-verse in *fornyrðislag* in turn provided a structural basis for that of *dróttkvætt* (Sievers 1893:§61, Kuhn 1983, Árnason 1991, Gade 1995), the most common meter of skaldic poetry, by reanalysis and generalization. While the origins of this skaldic meter were once vigorously debated and remain still unsettled, some continuity between *fornyrðislag* and *dróttkvætt* can hardly be doubted, particularly in regard to stanza formation, alliteration pattern, and constituent metrical types.[11, 12]

By and large, *dróttkvætt* would have emerged through regularization of certain optional features that are characteristic of *fornyrðislag*. The

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[11] For a concise review of previous scholarship, see Árnason (1991:82–84) and Gade (1995:7–12).

[12] By contrast, the principles of internal rhymes, syllable counting, and fixed cadence are apparently foreign to *fornyrðislag* (Gade 1995:7, 11).

fornyrðislag's stanza of variable length was standardized so that it uniformly consists of eight lines in *dróttkvætt*. The variation between single and double alliteration in the a-verse of *fornyrðislag* is no longer allowed in *dróttkvætt*: only double alliteration may occur in the odd lines. Of the five basic metrical types (see section 1 above), only three are used with notable frequencies, namely types A, D, and E. The virtual absence of types B and C may be ascribed to the avoidance of verse forms that begin with a drop. In the light of these generalizations, which were extracted from *fornyrðislag*, it seems reasonable to assume that the favored and yet noncompulsory cadence lift + drop for the b-verse was generalized as an obligatory verse constituent in an analogous fashion, with a concomitant regularization whereby the lift is always realized by a long syllable to the exclusion of resolution.[13] Moreover, since the end of the b-verse also constitutes that of the line, the cadence in question was reconceptualized as an independent line-ending marker by reanalysis: rather than being conceived of as constituting a final part of the verse as in *fornyrðislag*, it was separated out as a self-contained unit from the four-position structure of the traditional verse. Consequently, in *dróttkvætt* the sequence lift + drop (Px) was redefined as the obligatory final constituent of every line. Since the verse in itself is incapable of forming a line in its own right, the line was composed by attaching the newly identified cadence to the verse that comprises four metrical positions in its canonical form.

Thus, the use of fixed cadence—one of the few features that are alleged to distinguish *dróttkvætt* sharply from *fornyrðislag* and accordingly tend to be ascribed to a foreign (Irish) influence—should better be viewed as an indigenous development that arose as a conse-quence of a regularization of a property inherited from *fornyrðislag*.

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[13] This generalization may be attributed to the strict syllable counting charac-teristic of *dróttkvætt* and the maximal regularization toward the end of a line in versification in general.

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