A characteristic of runic inscriptions in the older futhark is the use of bind-runes, combinations of two or more runes. These occur sporadically in the early inscriptions and are usually attributed to stenographic principles, i.e. a desire to save time or labour or economize on space, a usage which is thought to accord with the use of ligature in many other systems of writing. Not infrequently, other reasons are suggested to account for their appearance, including cultic practices, and number-magic. These last two carry little weight today and there is nothing to support the hypothesis that bind-runes were used to enhance any occult function of runic texts by number magic, by functioning simultaneously as ideographs or having other symbolic functions (cf. MacLeod 2002: 95ff.).

The use of bind-runes in early inscriptions in fact appears to be fairly arbitrary and largely governed by carver whim. They appear, for instance, three times, apparently at random, in the long inscription on the Tune stone from Norway (Krause/Jahnkuhn 1966, no. 72), in the words witaða, wita(n)da, halaiban, h'laiban, dálidun, dálidun, or rather abundantly, and perhaps as a space-saving device, on the Norwegian Strøm whetstone (Krause/Jahnkuhn 1966, no. 50):

\[
\text{wate}h\text{a}l\text{i}h\text{o}n\text{o}h\text{or}n\text{a}h\text{a}h\text{a}k\text{a}p\text{t}h\text{a}p\text{ul}\text{i}g\text{i} \\
\text{w}a\text{t}e\text{}\text{ha}(l)\text{hi}n\text{ho}n\text{a}! \text{h}a\text{ha} \text{ska}p\text{t}! \text{h}a\text{h}u \text{lig}(g)!!
\]

Generally they occur in an apparently random fashion, in only a few words, and for no readily discernible reason (cf. MacLeod 2002).

Nevertheless, there are a few inscriptions in which the bind-runes appear to be a more deliberate choice of the runic artist, who presumably selected them to enhance a part of an inscription. This use is restricted to only a very few runic
inscriptions but it becomes notable when compared with some of the Latin inscriptions of Roman Germania, where it appears that ligatures may also have been used in a similar way to visually emphasize important information, particularly the names of deities. At least two runic texts appear to use bind-runes as a kind of literary art; these are the inscriptions from Kragehul in Denmark and Undley in England, where bind-runes are almost certainly employed to give prominence to a part of the text. This seems undeniably the case with the sequence “gagaga” on the wooden spear-shaft from Kragehul, which may be compared with a similarly formatted “gagaga” on the Undley bracteate. It is unnecessary here to discuss the interpretation of the inscriptions, which have been extensively published, but it is clear that the baffling bind-rune sequences are the crux of the texts: attention is immediately focused on this part of the inscription by the use of the striking triple ligatures.

The “gagaga” ligatures on the Kragehul spear-shaft appear in an undeniably semantic context but are nevertheless commonly read as a form of runic shorthand rather than as an independent word (“ga” or “gagaga”). The text, which is broken and incomplete, has been variously interpreted; one possible reading (largely following Krause 1966: 65ff.) might be:

```
ekerilazasugisala|
s-muha hate gagagacinugaha|
lija|
hagala|
wijubig-…
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The text, which is broken and incomplete, has been variously interpreted; one possible reading (largely following Krause 1966: 65ff.) might be:

```
ek erilaR A(n)sugíslas múha (or: Múha) hai: e. gagaga ginu-ga.
he<lma-ta>lija (or: -<tå>lija<tå>)
hagla wi(g)ju (or: wi(h)ju) bi g<aika>
```

‘I, the Eril, am called Ásgísl’s follower (or: son Muha). gagaga, mighty-ga. Helmet-destroying (?) Hail (= Ruin) I dedicate to the spear’.

This can be compared with the much shorter, but similarly perplexing English bracteate text:
Three often appears as a number of especial significance in runic inscriptions, where runes or formulae are sometimes carved three times in succession.

Ligatures in Early Runic and Roman Inscriptions

\[ \text{ga}gogae - mægæ - medu \]
(presumably): \[ \text{ga}gogae \] mægæ medu

‘mead to a kinsman’.

Until recently-renewed interest in the spear-shaft, it was fairly well established that the repeated \[ \text{ga} \] bind-runes of the Kragehul inscription were ideographs standing for their rune names, i.e. \textit{gebu ansur}, or the logographic representation of an attested runic formula, \textit{gibu auja}. In fact a multitude of suggestions have already been put forth for the interpretation of the bind-rune \[ \text{ga} \] (cf. MacLeod & Mees 2001): \textit{gibu auja, gebu ansur, gebu auja, auja gebu} or even \textit{Ansu-gisalar}, all of which are seemingly incapable of confirmation. More recently, the sequence \[ \text{gagaga} \] has been identified as a proto-Nordic word (\textit{ga-ganga}, ‘fate’; \textit{gagångå}, ‘companion’ etc.), or even read as a ‘sesame’ word (Moltke 1985: 101, 141; MacLeod & Mees 2001: 20).

The ligatures in neither of these inscriptions can be explained as space-saving devices: the Kragehul inscription is well-spaced, particularly at the beginning, where most of the ligatures occur. It is conspicuous that the bind \[ \text{gæ} \] does not recur in the word \[ mægæ \] in the Undley inscription, just as the final \[ \text{ga} \] of the Kragehul inscription is not ligatured. This can be attributed to some desire to distinguish the threefold bind from the rest of the inscription, whatever it may say; unligatured \[ gagaga/gagogae \] would not be nearly as prominent as the ligatured equivalent.

The similar layout of analogous ligatures on the Undley bracteate (\[ gagogae, \] subsequent \[ gæ \]), and Kragehul spear-shaft (\[ gagaga, \] subsequent \[ ga \]) tends to strengthen the supposition of an unresolved word or abbreviation, rather than a logographic \textit{gibu auja} or \textit{gebu ansur}. The prominence of triplicity in the Kragehul inscription (the three-fold bind, the carving of the vertical staves with three or four strokes), as well as the later recurrence of the same sequence unbound might further suggest reading the bind-runes as \[ \text{ga} \] (\textit{x 3}) rather than \[ gagaga \].\footnote{Three often appears as a number of especial significance in runic inscriptions, where runes or formulae are sometimes carved three times in succession.} While there is little consensus here, it would seem not unlikely that the bind-runes represent the acceptable shorthand form of a runic word or
The bind-rune _seek_ is found in one further inscription on the Skåne bracteate ((laþulau)kaR-gakaRalu). Although usually read as a collection of formulaic words (laþu, laukat, gakaR (?), alu), this may also be considered as containing an unrepeated rendering of enigmatic 'ga’ (i.e. ga-kaR rather than the unexplained (and unparalleled) gokar, cf. Müller 1988: 138).

The bind-runes, the meaning of which it would be fruitless to speculate too far upon. The prominence of the SEEK ligatures in the Kragehul inscription, and their counterparts in the runic symbols on the Anglo-Saxon Undley bracteate make it likely that the repeated runic bind of g+vowel had some significance in the Germanic runic world, a significance which is difficult to rediscover, but which was marked on at least two separate occasions by being rendered in a series of striking runic ligatures.2

The evidence is admittedly fragmentary, but it does correspond in some measure to some of the nearby Roman inscriptions and, in deference to the theme of the conference, it seemed appropriate to investigate these. Given the vast corpus of Roman epigraphy, it has been necessary to concentrate on only a small, and possibly unrepresentative, selection of the available material.

The idea of comparing and contrasting ligatures found in different epigraphic scripts came to me during work on my doctoral thesis on bind-runes, where it became apparent that many scholars had regarded the use of ligature as a tool for deducing the proposed ancestor of the runic script. Westergaard (1981: 72) even suggests Latin-letter prototypes for the common bind-runes comprising the runes H or M (as directly modelled on Roman letter ligatures formed with H and M), although most runologists content themselves with pointing out the presence of ligatures in whatever is suggested as the parent alphabet for the runes, and naming a possible connection. The weakness here is that use of ligature is well attested in all of the Mediterranean models (Latin, Greek or North Etruscan) from which runic writing is commonly derived. And it is in any case probably preferable to regard ligatures as completely spontaneous scribal creations, arising naturally in most forms of written language.

I do not intend to rehash the results of my thesis, which compared the results different scholars had arrived at by using ligatures as one of their criteria to find the alphabetic model on which the runes are based. The theory of a Latin origin for the runes is neither advanced nor impeded by any consideration of ligatures;

2 The bind-rune SEEK is found in one further inscription on the Skåne bracteate ((laþulau)kaR-gokaralu). Although usually read as a collection of formulaic words (laþu, laukat, gakaR (?), alu), this may also be considered as containing an unrepeated rendering of enigmatic ‘ga’ (i.e. ga-kaR rather than the unexplained (and unparalleled) gokar, cf. Müller 1988: 138).
it is also irrelevant whether the runic alphabet is derived from monumental Roman epigraphy or cursive lettering. Nevertheless, as the theory that runes should be derived from Roman writing is the one which at present probably enjoys the most favour among runologists, it seemed natural to look for similarities in the way in which ligatures are used in these two scripts.

The Latin script, known from circa 600 B.C., is often characterised by its heavy use of ligatures and abbreviations by Latinists as well as by runologists promoting a Latin derivation for the runes. The first Latin ligatures appear circa 200 B.C., mainly, but not exclusively, on coins (Batlle Huguet 1963: 17; Meyer 1973: 42; Sandys 1974: 53; Wachter 1987: 447, n. 1013; Vine 1993: 287ff.). Although not in general use in Italy, ligatures were common in private inscriptions in the provinces such as Gaul, Germania, Britain and Africa (Hübner 1886: 495; Meyer 1973: 42; Sandys 1974: 53).

In a similar manner to runes, Latin ligatures are most frequently explained in the standard epigraphical works as a scribal expedient used to save time or space or make inscribing in a difficult material easier (Hübner 1886: 495; Cagnat 1914: 23; Batlle Huguet 1963: 17; Meyer 1973: 42; Sandys 1974: 53; Gordon & Gordon 1977: 76, 160; Gordon 1983: 15; Almar 1990: 39). Nevertheless, a closer examination of some of the early inscriptions reveals that ligatures are not always employed in the totally haphazard way often described; some of these may also have been used for reasons of fashion or aesthetics. This is particularly noticeable in several of the inscriptions from Roman Germany.

The inscriptions investigated here are the so-called matron (mother-goddess) inscriptions, mostly dedications to female divinities addressed as _matronae_, _matres_ etc. from the Rhine area in Germany. Hundreds of these Roman-style inscriptions inscribed on altars are known from the early centuries of Roman occupation in Germany. Most date from about the second to third century. The texts are primarily Latin, although the by-names of the goddesses constitute

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3 Meyer’s 200 n. Chr. is a mistake.
4 Vine (1993: 288) points out that the term ‘coins’ usually refers to small objects where space is at a premium.
some of the oldest evidence of Germanic language, and some of the texts show Germanic influence on Latin grammar.\textsuperscript{5}

What is notable about these inscriptions is that they seem to use ligatures strikingly often in the names of the goddess, often exclusively so. In a number of matron altars, the only ligature occurs in the divine name (e. g. CIL XIII 7821, 7854, 7883, 7885, 7889, 7894, 7898, 7909, 7951, 8220; Kolbe 1960: 57, 76 etc. This is not intended as an exhaustive list). Following the six-part division of inscriptions by Vennemann (1994: 284), it is instructive to note how ligatures are distributed over the various categories.

Category I comprises: the word \textit{MATRONIS}
\begin{footnotesize}(feminine dative plural);\end{footnotesize}

Category II: a by-name;

Category III: the name of the dedicant(s)
\begin{footnotesize}(nominative);\end{footnotesize}

Category IV: the title or office of dedicant(s)
\begin{footnotesize}(optional);\end{footnotesize}

Category V: occasional addition
\begin{footnotesize}(on dedicant’s position or devotional information);\end{footnotesize}

Category VI: standard formula, V.S.L.M.\textit{(votum solvit libens merito)}.

Of the 68 most complete matron inscriptions in CIL XIII, 7776ff., the numbers of ligatures in the various categories are as follows:

\begin{itemize}
\item I: 26 ligatured;
\item II: 35;
\item III: 19;
\item IV & V: 15;
\item (VI is never ligatured).
\end{itemize}

\textsuperscript{5} For an overview on the distribution and general nature of these inscriptions, see Rüger 1987.
Only 13 inscriptions have no ligatures at all. As categories III and IV/V are typically longer than I and II (both comprising only one word), in fact often significantly longer, these are probably over-represented statistically, which can only make the numbers conservative. Combined statistics are I + II: 48 vs. III, IV, V: 28, i.e. ca 5:3. Complex ligatures comprising three or four letters are only found in the first or second categories, which again underlines the proclivity to ligature the names of the goddesses. Exemplary is CIL XIII 7893, where three of the four ligatures (and all of the most complicated examples) occur in the name. The inscription reads: 6

M+A+TRON+IS | V+A+T+VIABVS.IV | LIA VECETI | FILIA
MA+ND | IA.PRO.SE | ET SVIS.VO | TVM.SOL | VIT.L.M.

Further instances could be adduced ad nauseam, from CIL and other publications.

These are necessarily unverified impressions – detailed statistics for the vast corpus of Roman inscriptions are outside the scope of this investigation as well as being almost impossible to obtain. Nevertheless, some notion of highlighting looks like a probable contributing explanation for the ligatures. Nor is it of course necessary that there be a parallel with the runic practice of using ligatures as a kind of decorative flourish – this could well be a spontaneous runic innovation and, even if a similar technique is demonstrated in Roman inscriptions, need not be related.

There are of course other ways to explain this phenomenon, i.e. to suggest that the preponderance of ligatures may be due to familiarity in carving a word repeated so many times, or that a word so readily understood would naturally be the one the carver would choose to ligature etc. Ligatures are often stated to be used especially in names, 7 but it is notable that in the matron inscriptions it is usually the name of the goddess and not the dedicant which is ligatured.

6 Ligatures are traditionally represented with a bow over the joined characters; where this is infeasible (e.g. where the ligature comprises more than two letters or runes), a plus sign has been used.
7 e.g. Hübner (1886: 496); Vine (1993: 288).
Space-saving, which accounts for many of the Roman ligatures, may sometimes be a feature (for example in Kolbe 1960: 55), but cannot account for all the occurrences. Space-saving was presumably less of a consideration for runic inscribers, whose texts were commonly short and often inscribed on readily available material of little intrinsic value.

Sparrow (1969: 1) makes the points that “everything that is written or printed is presumably intended to be read” (which is debatable, to say the least), and that everything intended to be read (with the exception of Braille) “is intended to be read with the eye”. This last point, although obvious, is often overlooked in epigraphic studies, as is the fact that inscribers may have employed certain tricks to arrest attention or detain the eye of the illiterate or semiliterate reader.

In view of the fact that mass literacy was never attained by more than a small portion of the Graeco-Roman population (Harris 1989, passim), it seems reasonable to assume that carvers resorted to various orthographic devices to give prominence to parts of an inscription. Franklin (1991: 84) notes that the names of political candidates or providers of public events were typically lettered or cut at larger scale, presumably so that the semi-literate could work them out. Oliver (1966: 159) also mentions the occasional elongation of letters lending emphasis to a word. Oversize letters or words might thus be regarded as a kind of graphic emphasis and it is not infeasible that ligatures would have been used in a similar manner. Franklin further suggests that some abbreviations in contrived ligatures (e.g. O+V+F for ora vos faciatis) may have been understood only as symbols by some readers. The importance of visual, rather than literate, comprehension is emphasised by Franklin (1991: 86): “General cogni-

8 The prominence of names and titles in some inscriptions is also mentioned by Sparrow (1969: 1).
9 Similarly, Rüger (1981: 332) describes a first century A.D. Rhine inscription where the dedication is rendered in capitalis quadrata of large size while the part of the inscription pertaining to the dedicants is inscribed in much smaller and tightly spaced capitalis actuaria.
10 Common formulae or sentences (ora vos faciatis; ossa hic sita sunt etc.) were often compressed into ligatured form; cf. Hübner (1886: 495); Batlle Huguet (1963: 18); Meyer (1973: 86); Sandys (1974: 53).
11 Corbier (1987: 57ff.) postulates a wide-spread ‘semi-literacy’ in basic Latin, enabling the comprehension of “un nombre relativement restreint de mots et d’abréviations courantes”.

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tion was not dependent upon reading ability”. The situation need not have been so different in the runic world, a matter to which I shall return shortly.

Further similarities between Roman and runic ligature practices can be observed. Runic ligatures commonly consist of two runes, but ligatures of three and four runes are also found (e.g. e+k+e+r, on the Bratsberg inscription). The same applies to Roman ligatures and it is notable that of the inscriptions investigated, the three and four-letter ligatures only occur in the name of the mother-goddess. In a matron altar from Eschweiler-Fronhoven (Rüger 1983: 120, plate 8) for example, the N+I+H+E ligature occurs in the by-name, as do the T+N+I+N+E ligature and the N+I+N+H+I ligature in two further Eschweiler-Fronhoven inscriptions (Rüger 1983: 121, plate 9; 141, plate 26). A series of ligatures occur in the name in another dedication from the same place (Rüger 1983: 125, plate 12).

Outside the corpus of the ‘matrona’ inscriptions, further comparisons between Roman/runic ligatures might be made. Unlike many Roman examples, comparatively few runic inscriptions make use of more than one bind-rune, and none seems to do so with any measure of consistency, i.e. by taking advantage of every opportunity for ligature. Meyer (1973: 42) suggests that in some extreme cases, Roman ligatures may have been used to render texts incomprehensible, something which does not seem to occur in the runic material.12 There are certainly no early runic inscriptions matching the grotesque third-century dedication from the lower Rhine crossing at Traiect, Holland, (cf. Vollgraff 1932, plate 2),13 where each word is composed of a series of extraordinary ligatures, although such excessive use of ligature does feature in some later medieval runic inscriptions, e.g. the Føvling tomb-stone (DR 25), or the Aggersborg church inscription (Moltke 1985: 516), which Moltke (1985: 409) believes are probably influenced by contemporary Roman lettering, a fact in the

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12 In the Norwegian Tørsvika B cliff inscription, an apparent excess of branches is appended to nearly every runic graph, and the text is sometimes said to contain the most extravagant and inexplicable use of ‘bind-runes’ (e.g. Musset 1965: 165). I regard Tørsvika B as incapable of transliteration, despite the fact that some translations have been attempted (most recently by Høst 1954; see further MacLeod 2002: 118ff.).

13 Less extreme examples where decipherment is impeded by the many ligatures include CIL VIII 8807, CIL XII 2611 etc.
case of the former supported by the fact that the text is in Latin. Such excesses were presumably demonstrations of carver proficiency intended to complicate deciphering of the inscription.

A related but no less interesting use of Roman ligatures is as a kind of cryptographic script: Guarducci (1958, passim; 1961) demonstrates a cryptic system of writing in some fourth-century inscriptions from the Vatican tombs achieved by ligaturing extra letters unrelated to the actual message to spell out holy names in otherwise profane messages. In one of the inscriptions the final E of pace shows a superfluous ligatured P, suggesting the holy name of the saint Peter, while incidental to the main text of another is the ligature of MA, suggesting the holy virgin Mary (Guarducci 1958: 431, fig 221; 204, fig 81). This ligatured suggestion of secret Christian monograms is unparalleled in early runic writing, but can be compared with some of the younger medieval inscriptions, where runic letters are sometimes embellished with a ligatured cross.

Ligatures were thus not exclusively due to technical considerations. They were also a demonstration of carving proficiency or sometimes even a ‘fashion’. Gordon (1983: 15) concedes this last point, describing ligatures as “later in some cases … the result of fashion or whim”. Ligatures were often deliberately used as decorative elements in inscriptions, according to Almar (1990: 39, 87). Ewald (1974: 81) concludes that ligatures are usually the work of practised carvers and Susini (1973: 48f.) suggests that ligatures and abbreviations

14 Not all of her examples are totally convincing, but the accumulative weight of evidence is impossible to deny.
15 Magnus Olsen made valiant but ultimately unconvincing attempts to demonstrate similar forms of encoded religious monograms embedded in some medieval runic texts (cf. MacLeod 2002: 277ff.).
17 Gordon & Gordon (1977: 160) also attribute some ligatures to whim or habit, or ‘a special liking for them’. Gordon (1983: 15) mentions, for example, the ‘fashionable’ monogrammatic style of cutting cos. Gordon & Gordon (1977: 76) also note that the use of ligature “seems to have become a popular affectation, almost a fad” in some areas; cf. also Ewald (1974: 88).
18 Ewald (1974: 71ff.) shows that Swiss inscriptions with ligatures were more likely to incorporate other decorative elements within the text.
19 Cf. also Ewald (1974: 39, 42, 82ff.).

20 There are a number of further inscriptions, several with bind-runes, which appear to be debasements of an ek eri1aR/iril1aR formulation, cf. ekerilaR, Järsberg; ekeril1aR, Kragehul; ekeril1aR, Bratsberg; ekil1aR, Veblungsnes & By. Birkmann (1995: 157) has suggested that this ‘Modeerscheinung’ may have promoted the use of bind-runes, perhaps linked with magical practices, in other inscriptions, particularly the ek … inscriptions. Given that several bind-runes pre- and post-date the fifth and sixth century eri1aR inscriptions, there is little concrete support for Birkmann’s theory of a

As well as the general employment of ligatures to save space or work, the use of ligature as a means of decoration or visual emphasis is something which is found, to a limited extent, in both Roman and runic inscriptions. The matron inscriptions appear to show ligatures being used to emphasize the name or by-name of the goddess, while the triple X bind-runes of Kragehul and Undley show a similar use of ligature to focus attention on an important feature of the text. What follows may be regarded as some inevitably rather speculative suggestions building on this observation.

Bind-runes occur most often in the early texts in the ubiquitous ek eri1aR/iril1aR formula, cf. ekerilaR, Järsberg; ekeril1aR, Kragehul; ekeril1aR, Bratsberg; ekil1aR, Veblungsnes & By. Birkmann (1995: 157) has suggested that this ‘Modeerscheinung’ may have promoted the use of bind-runes, perhaps linked with magical practices, in other inscriptions, particularly the ek … inscriptions. Given that several bind-runes pre- and post-date the fifth and sixth century eri1aR inscriptions, there is little concrete support for Birkmann’s theory of a

Given that several bind-runes pre- and post-date the fifth and sixth century eri1aR inscriptions, there is little concrete support for Birkmann’s theory of a
bind-rune fad possibly linked with magic. Nevertheless, in light of the suggestion that bind-runes might be used for textual highlighting, it might be wondered whether graphic emphasis would explain why the _erilaR_ formula appears in so many ligatured variants.

This thesis might even be pursued further and it may, therefore, be suggested that ligaturing was sometimes used as a kind of orthographic decoration to distinguish names, as in some Latin inscriptions. Quite a number of bind-runes occur in names, e.g. _farkilar_ Harkilar, Nydam; _farabanar_ H'raban'nar, Järsberg; _троен_ Hröre, By; _asmun_ Ásmund, Sölvesborg; as well as a possible _ñalar_ Halar?, on Stenstad; _muha_ Múa, on Kragel; and _udr_ Udhr? on the Gotlandic Roes stone. Given the largely anthroponymic nature of much of the early corpus, an apparent preponderance of ligatured names may well be illusory. Nevertheless, it might be suggested that some runic carvers may have been tempted to highlight their names with bind-runes, similar to the way in which people continue to do with capital letters, fancy signatures etc. 22 Such a tendency is seen in the ornamental multiplication of the pockets and staves in the name _habuku_ Habuku, on the Oostum comb from Frisia (Düwel & Tempel 1968: 36ff.), with a three-branched Õ and a tri-pocket Í. 23 Related examples of ornamental runic monograms include the late sixth century runic crosses from Soest and Schretzheim in Germany which may contain the names _Attano_ and an

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22 Ligatured names also appear in the Anglo-Saxon runic corpus (MacLeod 2002: 78). Latin name monograms or ligatures might be compared with the elaborately ligatured names _ñereberêht_ or _ñadbaÜd_ in Anglo-Saxon runic carvings in Italy (cf. Derolez 1987; Derolez & Schwab 1983). Bind-runes are not infrequent in the manuscript runic signatures, cf. Derolez (1954: 406f.; 1991: 98). In one example (agnamertusinn, MS. 59, Valenciennes, Bibliothèque Départementale), the name also appears with ligatures in Greek characters, indicating a deliberate orthographic choice.

23 That the idea of ornamenting their own names was not foreign to later runic carvers is evident in the appearance of the rune Þ, for ‘capital’ Å, in medieval Bergen (cf. Spurkland 1991: 69, 81; Knirk 1994: 41ff.). A mirrored thorn rune, ᠦ, may also have been used to indicate ‘capital’ thorn, ᠦ, in some names (cf. Spurkland 1991: 145), although this is much less certain (cf. also MacLeod 2002: 283ff.).
24 Schwab (1998: 377) alternatively regards these as evidence of syncretic magic based on the sorcery of late antiquity (Greek, Roman, Coptic etc.).

25 Although the putative bind-rune occurs immediately under a sinistroverse alu, the expansion to ala is hardly assured. Decidedly more speculative (following Sierke 1939: 91) is to regard the suspected bind-rune as a simultaneous twig rune indicating the second rune of the first ætt, 1:2 = u, thus ǣl + u.

without bind-runes). It seems that bind-runes might sometimes have been employed in this way, as a way of drawing attention to a part of text. This use might explain why erilan is more often than not written with bind-runes. It certainly goes a long way to explaining the layout of the Kragehul and Undley inscriptions.

I think it is safest to maintain that there is no general underlying principle governing the use of bind-runes: like ligatures in other scripts, they were used to save time, space or effort. In addition, however, perhaps as a runic innovation, or perhaps comparable to the ‘fashionable’ Roman ligatures, they were sometimes used as a kind of decorative flourish to alert the eye to a significant part of the inscription. This is clearest in the inscriptions of Kragehul and Undley, but might be suspected in the ligatured names or important words of some further inscriptions as well.

27 Cf. also the Rosseland stone, with a slightly different formulation.
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