The Use of Permutations to Explain the Hackness Cross Tree Rune Inscription

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Abstract: All that remains of the Hackness Cross are two damaged stone fragments of an 8th or 9th century Anglo-Saxon monument. The cross fragments bear five inscriptions, two coded or cryptic inscriptions, and three in Latin which refer to an abbess named Oedilburga. The first of the cryptic inscriptions is written in what appears to be a form of Ogham, while the second is written in a combination of Anglo-Saxon Runes and Tree Runes. In 1994 I gave a paper at the CAA conference held at Glasgow University on the use of computer generated permutations in attempting to decipher the cryptic inscriptions (Sermon, 1995, 253-257 and 1996, 101-111). This work interpreted the Ogham inscription as a dedication in Old Irish which translated 'Cross to King Jesus, rock of help from Angus', and the standard Anglo-Saxon Runes as an Old English anagram meaning 'Oedilburg knew me'. However, no interpretation was offered at that time for the Tree Rune inscription. Recently a more critical re-examination of the Runic inscription has been carried out, where only those characters that could be read with a high degree of confidence were accepted. As a result one of the permutations of the Tree Rune inscription was found to contain the personal name 'Bosa' who was bishop of York from 678 to 705 AD, and a contemporary of Abbess Hilda who founded the monastery at Hackness.

Introduction

The monument consists of two damaged stone fragments from an 8th or 9th century Anglian cross, presently located in the south aisle of St Peter's church at Hackness in North Yorkshire (see Figure 1). The stones were discovered some time before 1848 in an outhouse on the former monastery site at Hackness Hall, and appear at some time to have been used as a gatepost. The fragments are from the top and the bottom of the cross shaft, and together stand to a height of 1.5 metres. However, the original height of the monument would have been something like 4.5 metres. The stones are decorated in relief with vine scroll, interlace, the feet of two beasts, and what is presumably the head of Jesus. In its original form the Hackness cross would have been equal to the well known examples at Bewcastle and Ruthwell. The cross fragments also bears five inscriptions, two coded or cryptic inscriptions, and three in Latin which all refer to an abbess named Oedilburga (see Table 1).

Oedilburga was presumably abbess of the monastery at Hackness that according to Bede (Sherley-Price 1968, 249) was founded by Abbess Hilda of Whitby in 680 AD; *That same night it pleased Almighty God to make her death (Hilda's) known by means of a vision in a monastery some considerable distance away, which she had founded that same year at Hackness (Hacanos).* Hilda's successor to the monastery at Whitby was Abbess Aelffled, who is mentioned in the *Life of St Wilfrid* by Eddius Stephanus (Webb and Farmer 1983, 171), when she visits her dying brother King Aldfrith of Northumbria at Driffield in 705 AD; *This verbatim account was given us by trustworthy witnesses, among whom were Abbess Aelffled, herself a king's daughter and Abbess Aethilberg (Aedilberg).* These events all fit into place when we realise that Hackness lies on route between Whitby and Driffield. It would therfore make perfect sense for Aelffled to have broken her journey at Hackness and from there on to have been accompanied by Aethilberg who is almost certainly the same person as Oedilburga commemorated on the cross.

The first of the cryptic inscriptions is written in what appears to be a form of Ogham, an alphabet developed in Ireland in the 4th century AD. In my previous work this was interpreted as a dedication in Old Irish which translated 'Cross to King Jesus, rock of help from Angus'. The second cryptic inscription is written in a combination of standard Anglo-Saxon Runes (see Figure 2) and more unusual Tree Runes.

The Runic Inscription

The Runic inscription is located on the east side of the upper fragment and consists of 15 Anglo-Saxon Runes, 35 Tree Runes and three Latin letters, combining to form a six line inscription (see Figure 3). In my previous work the first two lines of the inscription (+ E M B D W Œ / G N L G U I Œ R) were interpreted as an Old English anagram containing the name Œdilburg, in keeping with the three Latin inscriptions which also commemorate Oedilburga (see Table 2). Here the words are spoken by the cross, in a familiar Anglo-Saxon literary device known from the poem *Dream of the Rood*. Parallels also exist for Runic anagrams, including a number of riddles from the from the *Exeter Book*. The three Latin letters ORA at the end of the Runic inscription were interpreted as an abbreviation for the Latin *orate* or pray.

The Tree Runes employed here are thought by Page (1973, 64-66 and 1999, 83-86) to be a form of *Hahalruna*, which are

described in the 9th century *Isruna* Tract, and are similar to Norse runes from Maes Howe on Orkney. The Runic alphabet (futhorc) is split into four groups of eight letters. Each Rune is then represented by a vertical stemline, with the number of arms to the left indicating the group in which the Rune occurs and those to the right indicating its position within that group, thus giving rise to an alphabet of 32 letters (see Figure 4). However, due to the fragmentary state of the inscription, the actual reading of each Tree Rune is rather more problematic. If we compare the number of arms on each Tree Rune that have been identified by Haigh (1875, 349-391), Collingwood (1927, 59-61) and Brown (1930, 52-75) there are some significant differences (see Table 3). Nevertheless, this comparison reveals broad agreement for the Tree Runes identified in the second line, and would suggest that this is the best preserved part of the inscription. Following a recent amd more critical re-examination of the inscription and published photographs (Lang, 1991, Illustration 463), only eight of the Tree Runes could be safely identified with a high degree of confidence (see Table 4).

As well as uncertainty about the correct reading of each individual Tree Rune, attempts to decipher the inscription have been further complicated by uncertainty about the order in which the Tree Rune letter groups were employed. If we divide the Anglo-Saxon Runic alphabet into four groups of eight letters, we then need to establish the order in which these letter groups correlated to the Tree Rune letter groups. This gives us a total of 24 different possible permutations, which have now been generated for the eight legible characters using a computer program. Having examined all the permutations, the majority were largely unintelligible, however, number 19 appeared to contain the name Bosa (see Table 5). For some time it has been suggested that the first group of Tree Runes (1/1 to 1/8) may correspond to the final group of eight letters in the Anglo-Saxon Runic alphabet (Derolez, 1954, 140-142), given that both groups appear to comprise the least used characters. It is therefore interesting to note that this is also the case with permutation 19 (see Figure 5), and that it is paralleled by the Maes Howe inscription where the Runic letter groups are used in reverse order.

According to Bede (King, 1930, 131), a monk named Bosa was raised at Abbess Hilda's monastery in Whitby, and later became bishop of York from 678 to 686 AD, and from 691 until his death in 705 AD; *In short, we have since seen five from the same monastery, afterwards bishops, and all these men of singular worth and holiness, whose names are Bosa, Aetla, Oftfor, John and Wilfrid. Of the first we have said before, that he was consecrated bishop of York.* Bosa would certainly have known about the monastery at Hackness, being a daughter house of Whitby, and is likely to have been held in high regard by these communities, which both lay within his diocese. We should also bear in mind that the early church in Northumbria was a close knit community, and that Hilda, Bosa, Aelffled and Aethilberg would all have known one another (see Table 6).

Conclusions

The legible Tree Runes number only eight out of 35, for which we have 24 possible readings or permutations. Finding that one of these permutations contains a known personal name is by itself a significant result. However, when we consider that this is not just any name but that of Bosa bishop of York, a contemporary Abbesses Hilda, Aelffled and Aethilberg (Oedilburga), it seems unlikely to be just a coincidence. In my previous work on the Hackness Cross I had concluded that there was probably little more that could be done on the Tree Rune inscription, given its fragmentary state. However, over the following years I have found it very difficult to put the problem down. While re-reading some of the previous papers on the cross, I realised that there was considerable agreement as to the reading of the second line of Tree Runes. With this in mind I decided to look again at computer output from my earlier work. This has lead to the present interpretation (see Table 7), which I believe fits both the historical and cultural context of the monument.

References

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Tables

Table 1. Hackness Cross Latin Inscriptions

+ REL(IGI)OSA ABBATISSA OEDILBVRGA ORATE PR(O NOBIS) + Religious Abbess Oedilburga pray for us (OEDI)L(BVR)GA SEMPER TENENT MEMORES COMMV(NITATE)S TVAE TE MATER AMANTISSIMA Oedilburga your communities hold you always in memory most loving mother OEDILBV(RGA) BEATA A(D S)EMPER T(E REC)OLA(NT) Blessed Oedilburga always may they remember you

Table 2. Interpretation of Standard Anglo-Saxon Runes

Reconstruction	+ ŒDILBURG GNŒW ME
Old English	+ Œðilburg cneow me
Interpretation	+ Oethilburg knew me

Table 3. Comparison of Previous Tree Rune Readings

Line 1									
Haigh	4/8	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Collingwood	3/8	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Brown	4/8	2/4	3/4	4/1	3/-	-/-	3/3	-/-	-/-
Line 2									
Haigh	3/2	2/4	3/8	2/1	2/5	2/4	3/2	-/-	-/-
Collingwood	4/2	2/4	3/8	1/1	2/5	2/4	3/1	-/-	-/-
Brown	4/2	2/4	3/8	1/1	3/5	2/4	3/1	1/1	-/-
Line 3									
Haigh	3/2	-/-	-/-	-/-	-/-	3/8	3/2	2/4	3/3
Collingwood	3/1	-/-	-/-	-/-	-/-	3/6	3/2	3/3	3/3
Brown	3/2	1/1	-/-	-/-	4/6	3/8	3/3	3/5	4/4
Line 4									
Haigh	-/-	-/-	-/-	-/-	-/-				
Collingwood	-/-	-/-	-/-	-/-	-/-				
Brown	1/1	1/1	2/3	-/-	3/8				

Note: additional "-/- " columns appear at the far right of Lines 1–3 (10th column).

Table 4. Legible Tree Runes

Line 1	4/8	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Line 2	4/2	2/4	3/8	1/1	3/5	2/4	-/-	-/-	-/-	-/-
Line 3	3/2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Line 4	-/-	-/-	-/-	-/-	-/-					

Table 5: Tree Rune Program Output

01	q	ae j d f l j	b	.....
02	d	b j q f io j	ae	.....
03	q	ae m s f e m	n	.....
04	s	n m q f io m	ae	.....
05	d	b ea s f e ea....	n	.....
06	s	n ea d f l ea....	b	....
07	q	ae o d h l o	b	....
08	d	b o q h io o	ae	....
09	q	ae m w h r m	u	.....
10	w	u m q h io m	ae	.....
11	d	b ea w h r ea....	u	.....
12	w	u ea d h l ea....	b	....
13	q	ae o s t e o	n	.....
14	s	n o q t io o	ae	.....
15	q	ae j w t r j	u	.....
16	w	u j q t io j	ae	.....
17	s	n ea w t r ea....	u	....
18	w	u ea s t e ea....	n	....
19	d	b o s a e o	n	....
20	s	n o d a l o	b	....
21	d	b j w a r j	u	....
22	w	u j d a l j	b	....
23	s	n m w a r m	u	....
24	w	u m s a e m	n	.....

Table 6. Hackness Timeline (614-714 AD)

614	Hilda is born.
649	Hilda is appointed abbess of the monastery at Hartlepool.
654	Aelffled is born.
657	Hilda founds a monastery at Whitby, where Aelffled and Bosa are trained.
678	Bosa is appointed bishop of York, following the expulsion of Wilfrid.
680	Hilda founds a daughter monastery at Hackness.
680	Hilda's death is seen in vision at Hackness.
680	Aelffled is appointed abbess of Whitby.
705	Aelffled visits her dying brother king Aldfrith, accompanied by Abbess Aethilberg.
705	Death of Bosa.
714	Death of Aelffled.

Table 7. Interpretation of Runic Inscription

Reconstruction	Translation
+ Œdilburg	+ Oethilburg
gnoew me	knew me
d	d . . . .
Bosa eo	Bosa eo . . . .
n	n . . . .
. . . . . ora(te)	. . . . . pray

Figures

Figure 1. The Hackness Cross

Figure 3. Hackness Runic Inscription
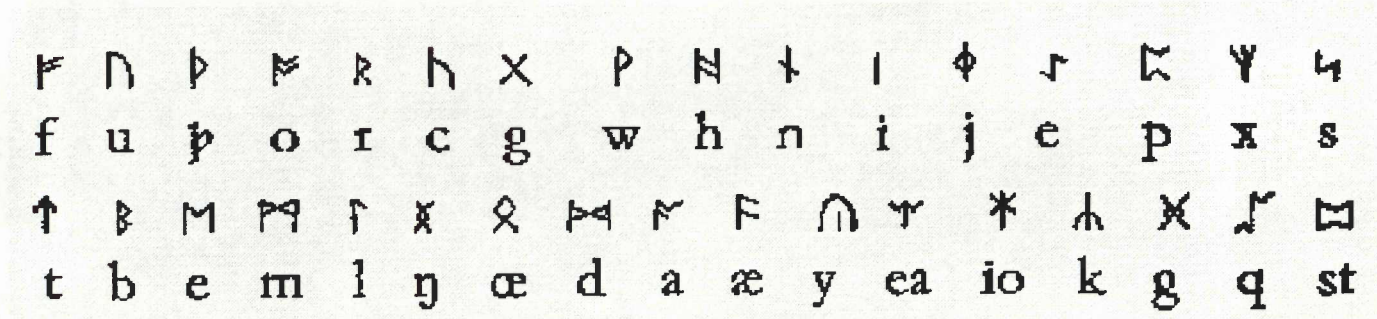
Figure 2. Anglo-Saxon Runic Alphabet
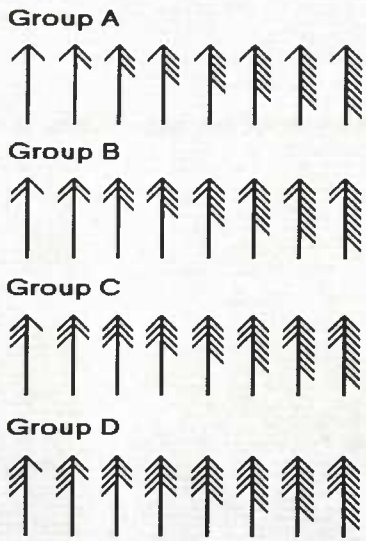
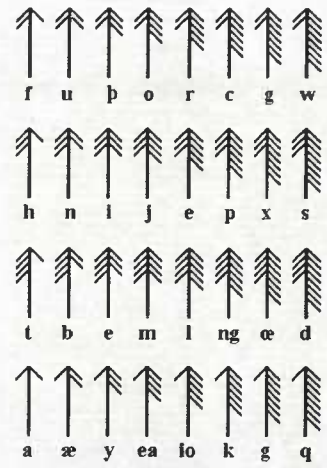*Figure 4. Tree Rune Letter Groups*

f u þ o r c g w

h n i j e p x s

t b e m l ng œ d

a æ y ea io k g q

Figure 5. Tree Rune Alphabet Reconstruction