A Recreation of Seal Tags circa 1200

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Figure 1: A picture of braid 1 in [Hen64]

1 Inspiration

This project was inspired by the 1964 article by Audrey Henshall "Five tablet-woven seal-tags"[Hen64]. Specifically the first braid which was used on a charter by William de Brus to Durham[1] cathedral priory, circa 1194 – 1215.

Jorhildr and I had decided on a joint project, in which she would create a formal warrant for my new position as Kingdom Webminister, replete with cast seal and seal tags, for me to hang upon the walls of my abode. My portion of the project consisted of the seal tags, while Jorhildr was planning on carving and casting the seal, and creating the scroll. The project as a whole is incomplete, as Jorhildr's fiance had the misfortune of a nasty traffic accident, requiring hospital recovery time, etc. Hence the separate entry of the seal tags.

2 A Description of the Extant Seal Tag

The description of the extant seal tag is based on Audrey Henshall's article. The seal tag was woven with thin 2 ply twisted silk coloured purple and yellow buff. The weft was a heavier indigo-coloured yarn. The tag is woven using 32 tablets, 28 of which are the pattern tablets which are threaded with two purple and two yellow threads each. The two edge tablets on each side are threaded with four purple threads.

At each end of the seal tag, the tablets are split into two tails of 16 tablets each, which are woven with a checker pattern; above the split the tails are combined into the main seal tag which is woven with five different decorative patterns. The patterns are arranged so that each pattern is woven three times, and then the whole set of 15 patterns repeats once.

The split tails are each 5mm wide, with the seal tag being 1 cm wide. The total length is 48 cm, of which approximately 4.8 cm on each end are the split tails, and there is a 2.5 cm fringe on each end.

Henshall helpfully includes patterns for the five designs in the braid, which are reproduced in Figure 3 in Appendix A. The designs are all square, woven in a 7×7 grid, where each grid-square

[1] Located in northern England, William de Brus was the 3rd lord of Annadale.

is created using 4 tablets and 4 wefts. The designs all display radial symmetry, as well as other structural similarities.

3 Methods

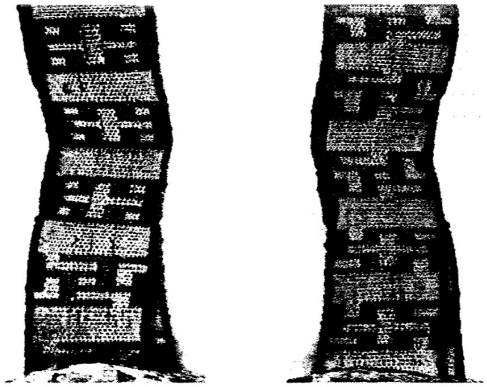

Figure 2: A closeup of some of the patterns of braid 1.

It is obvious from examining the seal tag – or rather the photos of the seal tag – that the main body is woven using the doubleface tabletweaving technique[2], with all tablets threaded in the same direction, and creating each "square" in the designs using 4 tablets and 4 picks[3,4].

For the split tails, the 14 pattern tablets in each tail are split into two groups of 7, with one group of 7 tablets flipped vertically to reverse the threading order. By preturning the tablets so that purple is in both front holes before flipping the tablets[5], and then turning all the tablets 4F/4B we create the checkered appearance.

In both the sampler and the seal tag that wove for this project, I began by weaving both tails simultaneously. After reaching the end of the tails, one weft thread was cut to about 6 inches, and then the tails were woven together by weaving the weft from the two tails in opposite directions through all the tablets. By originally starting the weft for both tails on opposite sides, I could guarantee that when it came time to weave the tails together, I could simply weave the wefts across each other, cutting one weft short after a few picks.

3.1 The Sampler

The sampler was woven first, as a test, to see if I had the right combination of weft for the warp; it was woven using 60/2 silk, which is a thin 2-ply silk. I wove 2 repeats of each extant pattern, and then added an additional 5 patterns, taking care to ensure that the resulting patterns were as square as possible.

The patterns are included in Appendix A.

3.2 The Seal Tag

After weaving the sampler, and noticing that the designs were squared off using the same thread for both warp and weft, I decided not to follow the practice in the extant seal tag by using a thicker string for the weft. Obviously the 60/2 silk I am using is slightly heavier/thicker than the silk in the original seal tags; the sampler is 1.6 cm wide rather than the original 1 cm. Since the designs are square, this meant that using the same arrangement of designs would result in a much longer seal tag. From prior experience I know that the next size down – 120/2 silk – would yield a

[2]See Appendix B for details on this technique.

[3]A pick is a single quarter turn of the tablets, followed by pulling the shuttle through the shed.

[4]Or more commonly, when using doubleface, we denote these 4 picks as 2 pattern rows.

[5]If the purple threads are in the two front holes before, the flip, they will be in the two back holes after the vertical flip.

tag that is significantly less than a cm wide, and after conferring with Jorhildr on the size of the seal she was creating, decided to use the 60/2 silk.

In the original seal tag, there are five designs; each design is woven three times, and then the whole is started over, resulting in 10 triplets. I decided to weave each design three times, but added a sixth design from the sampler, resulting in 6 triplets and a tag that was close in length to the original.

4 Materials

The seal tags were woven in 60/2 silk that was commercially dyed. In period, the silks would have either been purchased already dyed, or could have been dyed using weld for the light yellow, and either lichen (orchil[6]) possibly overdyed with woad/indigo for the purple, or alternatively indigo overdyed with madder. Given the indigo weft, we know that they had woad/indigo available, and could have overdyed the fuchsia-like purple with indigo to reach the darker shade.

Because the article's pictures are all black and white, I went with the purple silk that I could acquire.

5 Tools

The weaving was done using wooden tablets and a warp weighted loom loosely modelled on the viking warp weighted loom. In the first attempt, the takeup beam was as the top of the loom, but the tablets kept sliding down. By using a bottom bar as the takeup beam, so that the warp threads stretched over the top and then down the other side, it was possible to maintain tension.

Once the humidity got bad, the silk showed a distressing tendency to fray in the wooden tablets; the finish on the tablets that had felt so smooth to the touch was clearly not waterproof and the silk was rubbing against the grain in the wood. I had to abandon one warp and start over, after turning the AC and dehumidifier way up.

I suspect that bone tablets would not have had this problem but lacked the bone tablets to test the theory. Both playing tablets and tablets made from vellum-like report covers have worked successfully in the past, even in periods of high humidity.

6 Conclusion

The seal tags wove faster than expected although the silk used was silk; the patterns were all composed of 4×4 blocks, and I had enough wooden tablets that I could alternate four light coloured wooden tablets with four dark coloured tablets; no other markings were necessary on the cards since they moved in those groups.

Catching - and correcting – errors was trickier since the patterns were so small, and I did have to resort to a magnifying glass at one point. The extant seal tags have a few weaving errors that were not corrected, and I wholly understand why.

On the other hand, using the warp weighted loom was slower to warp up, but easier to use for the shorter lengths that I usually warp on the inkle-type and box looms – for the latter especially I have a tendency to warp the silk up in lengths of 6 yards or more. I can easily see myself designing and cranking out some Gleann Abhann seal tags in the future.

[6]Orchil produces a fuchsia-like purple, as described in [CT12], and was widely available in Scotland at that time.

References

[Col02] Peter Collingwood. *The Techniques of Tablet Weaving*. Robin & Russ Handweavers Inc., 2002.

[CT12] Karen Diadick Casselman and Takako Terada. The politics of purple: Dyes from shellfish and lichens. In *Textiles and Politics: Textile Society of America 13th Biennial Symposium Proceedings*, Washington, DC, Sept 2012.

[Hen64] Audrey Henshall. Five tablet-woven seal-tags. *Archaeological Journal*, 121(1):154–162, 1964.

Appendices

A Patterns

The seal tags are woven using the doubleface technique, with each tablet threaded with two purple and two buff yellow threads, and all tablets threaded in the same direction. Each square block in the pattern represents four tablets and four wefts.

The selvage tablets – two on each side threaded all with purple – are not included in the patterns.

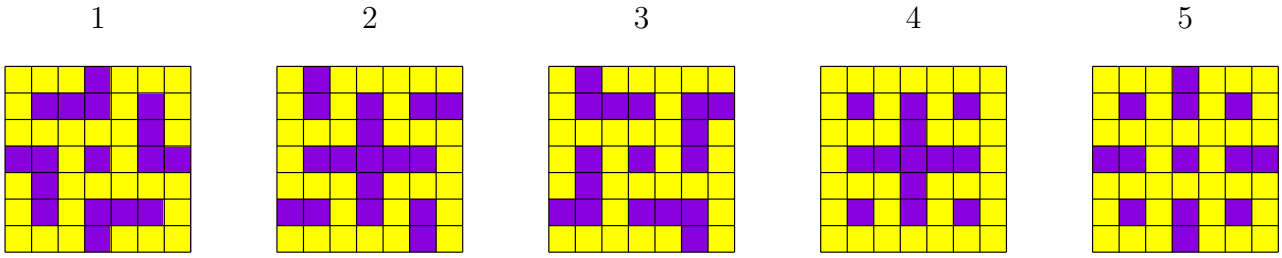

Figure 3: The five patterns included in Audrey Henshall's article[Hen64].

The five extant patterns all display the same radial symmetry, as well as avoidance of the centre square and eight surrounding square. In the additional patterns, I have tried to maintain the same radial symmetry, as well as avoiding the squares that are always empty in the original patterns. Pattern 10 shows all the empty squares, being as it includes all non-empty squares in the pattern.

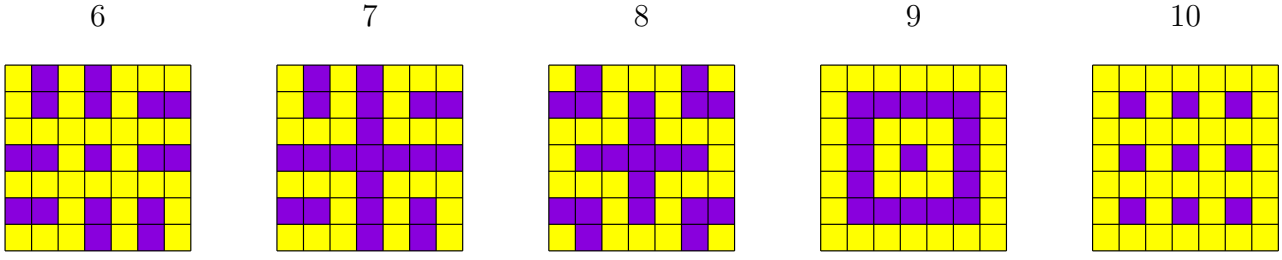

Figure 4: Five additional patterns that maintain the same radial symmetry.

B The Doubleface Weaving Technique

When using the doubleface weaving technique, each pattern card is threaded with two dark (purple) and two light (yellow) threads. The direction of the threading can either alternate or – as it was in this set of seal tags – be in the same direction for all tablets.

I use the two pack method as described in Collingwoods *Techniques of Tabletweaving*; mentally one pack is defined as the background pack and the other as the foreground pack. Every two turns, tablets are moved between the background and foreground pack as determined by the pattern, and the selvage tablets move to the pack which has the matching colour in the two front holes.

For instance, if the front holes have purple thread, and purple is the background, then the selvage tablets move to sit with the background pack. Conversely, if the front holes contain the yellow – foreground – threads, then the selvage tablets move to the foreground pack.

Then two picks are woven; the pack including the selvage tablets will turn forward twice, the other pack will turn backwards twice, and then the tablets and the selvage are moved as necessary from the pattern.

The only change with the patterns using in this project is that the tablets only move between the packs once every four picks, rather than once every 2 picks.

In the patterns in Appendix A, each square represents 4 tablets and 4 picks; for yellow squares the corresponding tablets were included in the foreground pack, while purple squares were treated as background.

Between designs, 3 rows of squares – or 12 picks — were woven with an empty foreground pack.