

Birka Reproduction Tortoise Broaches

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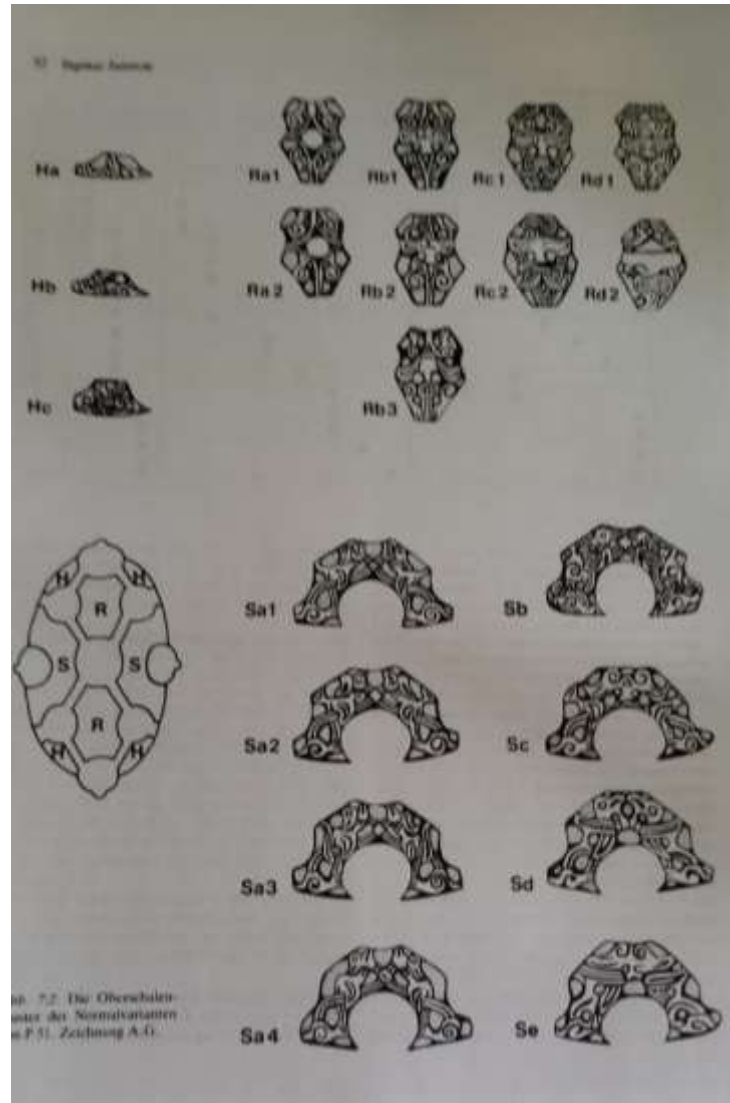
June 2020



Birka Reproduction Tortoise Broaches

Birka, Sweden was a Viking trading center established about AD 750, lasting more than 200 years, was the site of archeological digs starting in 1600's. However, the information on these reproduced Viking tortoise broaches provided in this paper is specific to the Hjalmar Stopes grave finds between 1871 to 1895 ([wikipedia: Birka](https://en.wikipedia.org/wiki/Birka) <https://en.wikipedia.org/wiki/Birka> retrieved on 6-22-2020).

The reproduction broaches are based on the Borre/Jellinge group defined as end of the 9th century to the middle of the 10th/10th century through AD 975, respectively (<https://www.historyonthenet.com/viking-art> retrieved 6-22-2020). This non-protruding profile style was found in graves 464, 504, 550, 552, 557, 602, 619, 825, 845, 950. Typically, these broaches were made of brass, but silver was also found. (Birka II:2 Systemische Analysen der gräberfunde Ed. Greta Arwidsson 1984). These broaches are thought to be the way to connect the straps of the apron dress on females, as they have been typically found in the graves at or near the upper torso/shoulders. The next image will show the varied patterns of the flat profile.



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How:

I modeled my African Wonderstone carving after the pattern seen on page 52, Rc2, Se, Hb of “Birka II:2 Systemische Analysen der gräberfunde,” Ed. Greta Arwidsson, 1984 (see image on previous page). My techniques differ from the last wax technique. After carving the broaches in the negative, as seen below, the Viking technique most likely used would have been to use a material similar to wax to make a positive impression and then this impression would be surrounded by sand packed tightly around the positive wax carving and molten brass would be poured into the sprue, displacing the wax by burning it off, thusly, replacing the wax substance (tallow, resin, or ever tar) with brass (https://en.wikipedia.org/wiki/Lost-wax_casting).

I did not do this, as my brass metallurgy knowledge is nil. However, I have carved several negatives and poured them successfully in pewter. Therefore, my metal of choice is pewter. This is my fifth pewter creation.



This first picture is after a mass amount of stone was removed to make the general tortoise shape with a sandpaper disc Dremel® bit, scratched out the rough 9 dot-to-dot pattern, and began carving out the wells that make up the dot-to-dot pattern. The dots were hand carved with dental instruments.



Then, began the arduous task of carving the patterns as was discussed prior.

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The carving wetted to show detail.



The carving completed.



Checking the detail with Playdough ®. It looks as though the face in the center needs to be carved deeper into the stone. A little more tweaking is yet to be done.

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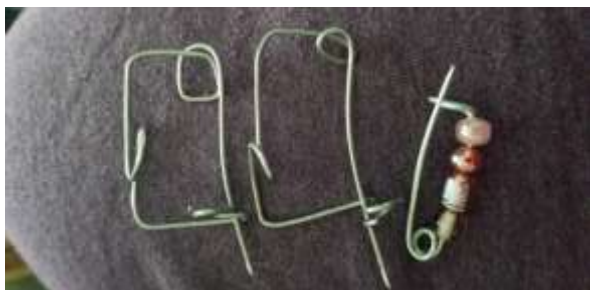
A comparison in thickness of the block of African Wonderstone. African Wonderstone was chosen over the more traditional soapstone due to the lack of striations in the stone. Striations make variations in the density of the carving materials, thusly making in more difficult to get an extremely detailed carving.



Next, I was to fabricate a pin, but found little extant evidence on how this was done. The Birka II publication I was able to view does not describe nor does it show a picture on the back of the broach. In conjecture, I used piano wire and bent it free hand with jewelers round pliers and channel locks. Piano wire is made of high carbon steel, otherwise known as spring steel (<https://melodyful.com/piano-wire-size-chart> retrieved 6-20-2020). This was the diameter I wanted and had good heft, however, it was very difficult to bend. I would have liked the curves to be more fluid and controllable. But, I would have to concede to the strength in my hands.



I added the loop that would be embedded in the pewter body to prevent wracking while pinning and unpinning from the garments and while supporting other things traditionally dangled from the broach.



They aren't exactly even. The third pin shown was what I was trying to achieve.

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pour.

Melting the pewter and beginning the



The first pour shows a void in the center due to the pin being rested in the forward position thusly showing with a line.

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The third try yields a good pour.



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The pewter poured in an "open pour" technique, due to needing to hold and stabilize the pin from the back with pliers while the metal set the pin in place.



Here is the comparison of a Raymond's Quiet Press broach and the Birke Broach.

They are nearly the same height, the pewter broach is $\frac{1}{2}$ inch wider. The Raymond's broach weighs 4 ounces. The pewter broach weighs more at 9 ounces.

These are not a super large in size and measure $3 \frac{1}{16}$ " x 2" x $\frac{1}{2}$ ". I dare say they are on average in weight with the "really fancy" large brass broaches I have felt while researching at Pennsic



I do plan to "clean up" the underside a bit. Maybe, this will reduce the weight to 8 oz.

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Removing some material to reduce weight.



The red “J” showing the imbedded pin starting to show though the pewter.

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Bibliography

Arwidsson, Greta, ed., *Birka II:2 Systemische Analysen der gräberfunde*, 1984

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