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Finland

Fermenting the Ancient Finnish Colours

The Finnish Iron Age textiles are from inhumation graves, where the bronze objects have preserved the wool fibers. Most of the fragments are from female graves, since the women did have a lot of bronze spiral ornamentation in their costumes and other bronze jewels. These textiles are about 1000 years old. Some well known graves are from Eura Luistari and Turku Kaarina Kirkkomäki.

Many fragments have clear colours: there are reddish, blue, brownish and yellowish shades of colours. The colours can be seen by the normal visual light microscope or in some case with the bare eye.

Some colour analyses made on the Finnish textile fragments have shown that the obvious red fragments contain a lot of tannins – not for example anthraquinones from madder or gallium plants. This is strange, since the madder was widely used elsewhere in the Europe at that time. Why did they dye with the tannins? And how?

Dyeing experiments made with tannins by the author have shown interesting results: the tannins can produce strong and bright madder-like reds. The tannins can also be utilised as mordant to other plant dyes.

In the experiments the dye bath made from the bark from *rhamnus frangula* was fermented and no boiling was used. In the fermentation process no added sugar or yeast was needed – only the right temperature and a lot of time. Some birch ash lye was added to the dye bath to prevent mould growing.

By the author this was assumed to be the dyeing method of the ancient Finns: alum and madder do not exist in Finnish nature, and it is uncertain whether alum or madder were ever traded to Finland at all during the Iron Age. Thus the red dye had to be obtained from the local sources.

Fermentation can be done in wooden vessels as well as in clay vessels. Tannins in an iron vessel produce black colour, so this alternative is not probable when tracing the source of the Finnish Iron Age red.

In the Finnish folklore most of the dyeing recipes are for mordant dyes, but there are some mentions about fermentation as a dyeing method, which supports the authors theory. In recipes *rhamnus frangula* and some other barks are mentioned as a source of red colour. The author has also made experiments with *tussilago farfara* and some other plants mentioned in folklore and got interesting dyeing results.

References:

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