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The textiles of a mining community in the French Alps during the Second Middle Ages (12th–14th century)

Introduction

From 1977 to 2015, archaeological excavations on the site of Brandes-en-Oisans, in the French Alps, unearthed a permanent village occupied from the 12th to the 14th century, at an altitude of 1800 m near the village of Alpe-d'Huez (Isère, France). This village included houses, a church and its cemetery, a fortified house, ore processing workshops, forges, a leather workshop (shoes, soles, etc.), and water installations (Bailly-Maitre 2019, 46–64). The main activity of the villagers was the extraction of silver-lead ore from the open air and from underground galleries more or less close to the village, followed by its processing (crushing, grinding, and washing) in the workshops (Bailly-Maitre 2008, 14, 61). During the excavation, a large number of organic remains were discovered, in addition to the “traditional” non-perishable artefacts made of ceramics, metal, glass, and stone: textiles, leather, walnut and hazelnut shells, peach and plum pits, and so on (Bailly-Maitre and Bruno Dupraz 1994, 155, 161). As a result, the site is exceptional in that it offers a complete (or almost complete) insight into the daily life of this mountain community of medieval miners.

More than 2,500 textile fragments were unearthed during these excavations, mainly in the context of waste dumping linked to ore processing, particularly in washing basins. To this day, there is no comparable site in France, either for the period in question (12th–14th century) or for earlier and later periods. On the other hand, excavations at some medieval and modern mining sites in Europe have unearthed textile remains, such as the Altenberg site in Siegerland in Germany (silver mine, 13th–14th century; Vierck 1998) and the Carinthia and Salzburg sites in Austria (gold mines, 15th–17th century; Nutz 2015).

The corpus was studied in several stages. First, approximately 400 remains from zone B102 and around thirty fragments from other sectors were



Fig. 1: A blue-dyed twill with two undyed bands from Brandes-en-Oisans (Image: Emeline Retournard)



Fig. 2: A 2/2 twill with embroidery holes from Brandes-en-Oisans (Image: Emeline Retournard)

observed during the master's degree at the University of Burgundy in Dijon (Côte-d'Or, France; Retournard 2015; Retournard 2017). Excavation area B102 corresponds to an ore washing workshop and the largest dump discovered at Brandes-en-Oisans. Subsequently, just under 1,150 textiles were studied during the doctoral years in archaeology under the supervision of Catherine Breniquet at the Université Clermont-Auvergne in Clermont-Ferrand (Puy-de-Dôme, France). The studies included the technical analysis of the textiles, bibliographic and iconographic research, interpretation of the data from the analysis phase, and comparison with other contexts.

Methodology

In terms of methodology, each fragment was examined using a thread counter or a stereomicroscope to record its quantitative and qualitative features. A number of fibre samples (dyed or undyed) were taken from the fragments to check the quality of the fibres and the presence or absence of dye. Some samples were also observed using a scanning electron microscope (SEM). All the data was recorded in paper form and in an Access database. Each textile was photographed on a graph paper background on both sides. In the case of decorative or structural elements, a manual record was made with a felt-tip pen on a plastic sheet and then transferred to the photograph of the fragment.

Perspectives on the study of fragments of medieval textiles from Brandes-en-Oisans

To define the technical and qualitative features of the fragments in order to create a reference textile collection

for the 12th–14th century in this geographical area and in an industrial context.

- To compare this collection with other archaeological textile finds from medieval mining sites in Europe, as Altenberg (Siegerland, Germany), and non-mining sites, as the excavations in medieval London.
- Research the fabric stripes, bands, checks and dyes and see if these fragments are representative of the period.
- Research the outfits of miners in medieval and modern times.
- Analyse the dyed fragments to find out more about the dyes and mordants used in this corpus and in the medieval period.

Carry out isotopic and protein analyses on wool fibres to identify the animal species (sheep, goat, etc.) and determine the region of origin of this raw material.

Define whether the textiles from Brandes-en-Oisans were produced locally or imported from other regions.



Fig. 3: Cloth fragment from Brandes-en-Oisans with cutting marks (Image: Emeline Retournard)

Determine the types of tools used to make the textiles. Define hypotheses as to the different uses of textiles on the site.

The technical analyses show that the 2/2 twill predominates over the other weave types, and that wool is used exclusively, except for three fragments of the same silk fabric. The warp threads are mostly spun in Z, and the weft in S. In terms of decoration, several types of elements are visible on a small part of the corpus: bands (fig. 1), stripes, checks, and embroidery (fig. 2). As far as structural elements are concerned, few selvages and seams have been found. On the other hand, many cutting marks were observed on the textiles (fig. 3).

The technical analysis of a large part of the Brandes-en-Oisans corpus was carried out during the master's degree and doctoral work. Some of the textiles were analysed using optical microscopy and SEM (fibre identification, traces of dyes, chemical elements in contact with the fibres). Interpretation of the origin and function of the corpus and comparisons with other archaeological textile finds were also made during this work. The other objectives and research will be completed once the thesis has been defended. The medieval textiles of Brandes-en-Oisans have yet to reveal all their secrets, and they still represent great potential for archaeological research.

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