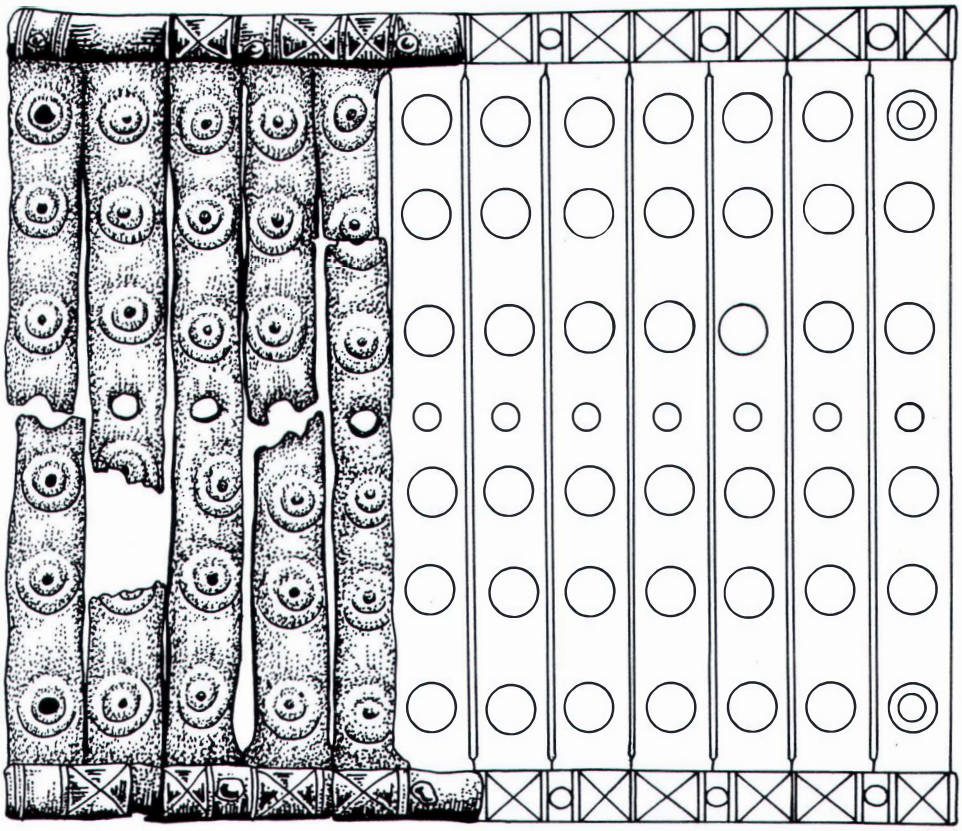
ARCHAEOLOGICAL TEXTILES NEWSLETTER



NUMBER 44 SPRING 2007

Editorial

It is pleasing to note that this number of *ATN* has a Mediterranean flavour, with articles on textile tools from Italy, textiles from Greece, a conference on textiles from Verucchio and a bibliography of awe-inspiring proportions from Carmen Alfaro Giner in Spain. But more northerly sites and experiments in cloth finishing make a welcome appearance, too.

As we noted in the Editorial of the last number, cotton seems to be the fibre of the year, and that is borne out by further contributions on the topic in *ATN* 44. Future handbooks on early textile history can no longer treat cotton as a curiosity – or not at all.

This is the penultimate number of *ATN* to be published in Britain. *ATN* 45 (autumn 2007) will be our last. The Centre for Textile Research in Copenhagen University will take over at the end of 2007, and their first number will be *ATN* 46 (spring 2008). The new editorial team give further information below; but until the *ATN* Trust is established in Copenhagen, subscribers need take no action. Those whose subscriptions are due for renewal will be sent a form in the usual way; if you do not receive a form, then your new subscription is *not* due!

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Cover: A heddle-frame from South Shields Roman fort, Tyne and Wear. The decorated bone slats (with holes for warp) are set in a copper-alloy casing. (Drawing and reconstruction: Priscilla Wild)

Features

Textile-making Tools from Ficana, Italy, Zone 4a

Ficana lies about twenty kilometres southwest of Rome, near the eleventh milestone of the road from Rome to Ostia. This ancient town was found in the early 1970s. Because of the rapid expansion of the city of Rome at that time, the need for scientific excavations at the site was regarded as urgent. In cooperation with the Nordic institutes at Rome (Denmark, Finland, Norway and Sweden) and Soprintendenza Archeologica di Ostia the excavations were conducted between 1975–1981 and 1983.

Excavations at zone 4a were directed by Eero Jarva from the Finnish Institute. The zone is located on the eastern side of the settlement's fortification embankment (*agger*). In this zone, several structures were found (fig.1). These were mainly intended for domestic purposes. Among other fragments connected to everyday use (cooking and storage vessels) a number of textile-making implements were found. These are contextually dated from about 950 BC to 500 BC (Latial Period II–Archaic) (Jarva 1980; Jarva 2001.) The textile tools include fragments of 29 loom weights, 23 spindle whorls and 25 spools and one bone object, identified as a possible tablet used for tablet-weaving (fig.2).

Form, decoration, weight and context

The form and decoration of spindle whorls, spools and loom weights remained similar through time in Central Italy. They were made of terracotta and are similar in both Etruscan and Latial *corpora* which otherwise differ from one another. However, several differences can be seen if they are compared, for example, to Northern Italian tools.

Spindle whorls are conical, biconical, spherical-conical or ovoid and half of them are faceted, as are others without any decoration. Generally, the number of spindle whorls found on Latial or Etruscan settlement sites are quite evenly divided into plain and faceted ones, whereas those found in burials are almost exclusively decorated either with facets or impressions such as

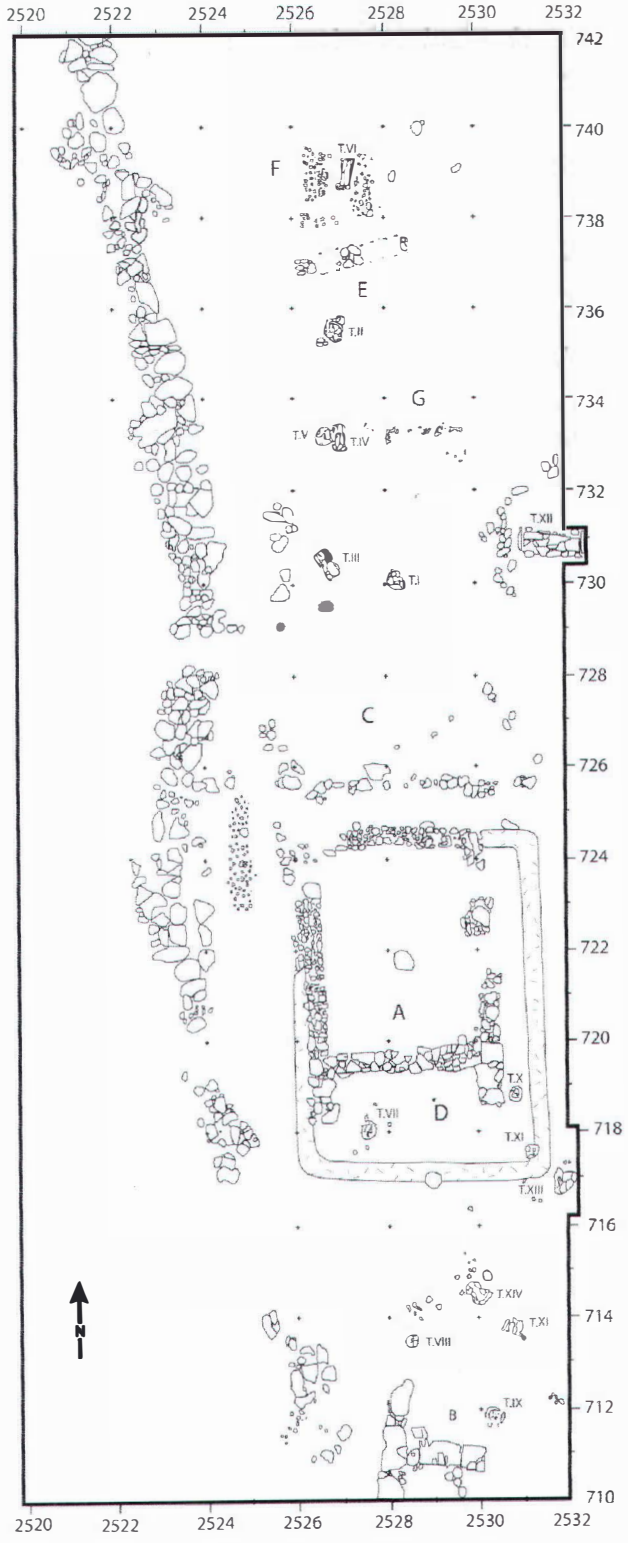

Fig.1 Structures at Ficana, zone 4a

circles. This certainly implies some sort of difference in their meaning on different occasions. The spindle whorls' weight varies from 6 to 53 grams (mean 23.8g), diameter from 1.8 to 3.8cm (mean 2.9cm) and height from 1.5 to 4.1cm. Spindle whorls of all forms and sizes were used at Ficana through different periods. However, spindle whorls

from Ficana zones 2 and 3b–c are slightly bigger with almost no small ones, which in zone 4a are contextually dated from the Late Iron Age to the Archaic period (Brandt 1996, 269–271; Malmgren 1997, 101–102, 148; for the comparison between different zones, see Lipponen 2004, 15–19).

Spools are either flat, round or conical-ended. A few of them have a hole in the middle and some have depressions in the end. All of them are undecorated. Most of the spools were fragmentary, broken right in the middle. Thus, the calculation of their original weight is possible. It varies from 36 to 175g (mean 87g). The length of the spools is from 2.4 to 8.2cm (mean 6.8cm). Italian spools are either interpreted as bobbins or small weights used in special techniques, such as tablet-weaving (Gleba 2004, 79; Ræder Knudsen 2002, 228–229).

Loom weights are truncated pyramids in form, except two, which are oval. In those cases, when the transverse hole has been preserved it goes through the thicker side. The maximum width of most loom weights varies between 4.2 and 6.5cm and the maximum thickness 2.8 and 4.8cm. The top of the biggest loom weight is missing, but its preserved height is 11cm, width 11.3cm and thickness 9.6cm.

Five loom weights have groove decoration. Two loom weights have cross-grooving on top and cross-decoration on one side. Another two have a longitudinal groove on top and one a groove rising from a hole to the top. The purpose for these markings has not been proved. However, it is suggested that they were marks for a weight series (Brandt 1980, 119–120). Such series are in fact supposed to have existed in the *corpora*, for example at Satrianum in Lucania (Holloway 1970, 30–32) and Poseidonia in Campania (Temple of Hera: Zancani Montuoro 1965–66, 78–82). Letters, names or their abbreviations are suggested to have been producers' or owners' marks (Ferrandini Troisi 1986). I believe that in Central Italy the longitudinal groove, the most common decoration on loom weights, was traditionally put on them for no practical reason. They seem to be found in loom weights of different sizes. The time span of this decoration is from the Bronze Age to at least the late Republic, and it is found in loom weights from most of the sites.

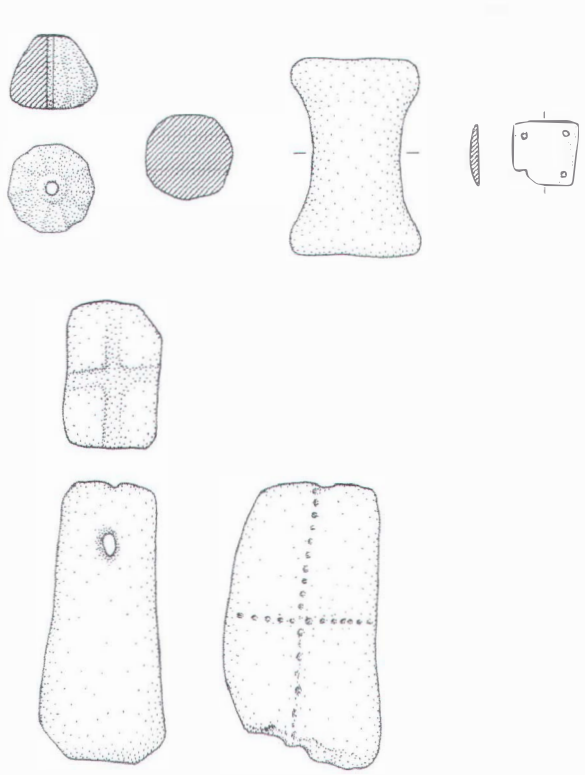

Fig.2 Textile tools from Ficana, zone 4a: spindle whorl (Ostia inventory no. 42970), spool (no. 38328), possible tablet (no. 53141) and loom weight (no. 42937)

All loom weights from zone 4a were badly fired and quite often their insides remained unfired clay. For this reason, only one loom weight was completely intact, others being more or less broken. However, based on specific weights or the preserved portion I was able to reconstruct the original weight of most loom weights. It varies from 147g to two kilograms (mean 377g). Most of the loom weights weigh 180–350g.

Zone 4a was mainly intended for domestic purposes. For example, cooking stands and finds connected with textile-making were found in all phases of the stratigraphy. The earliest construction in the zone is Hut D, which was built before the end of the eighth century BC. However, the function of Hut D may have changed in the course of time. At first, it may have functioned as a smithy (Jarva in press), and later as a dwelling. One spindle whorl and loom weight of phase IV were found inside Hut D (*c.*730/720–630/620 BC). Other tools of this phase were found outside the hut, but were closely connected to it. Most of the spools are

contextually dated to this period and found near Hut D, whereas most of the spindle whorls and loom weights date as House A, which was built at the end of the seventh or at the beginning of the sixth century. Textile implements were equally found both inside and outside House A and Structure C (in use *c.*650–500 BC). Two spindle whorls were possibly connected to two contemporary infant burials, just outside House A (Jarva 1980; Jarva 1981; Jarva 2001).

Tablet for tablet-weaving

From the excavation zone 4a one, slightly broken, bone object was found. It is square in form and may be identified as a tablet needed in tablet-weaving. Its measurements are approximately 2 x 2cm and it is perforated with one hole (diameter about 1mm) in each of its four corners. The tablet is 2.5mm thick. It has been dated contextually to the late eighth century BC. It is rather small in size, but still workable. In weaving with fine threads it would probably have been easy to handle. If it was a tablet, it is possible that similar small bronze, bone or amber plates found in burials might have been tablets, too, especially in those cases where the grave-good assemblage contains other textile tools, as for example in two tombs in the necropolis of Quattro Fontalini at Veii (Veii IIB, *c.*770–730/720 BC; Bedello, Fabbricotti 1975, 102–104, 161; definition of the phases of the tombs: Toms 1986, fig.2). The lack of tablets in the find *corpus* might well be a matter of interpretation rather than poor preservation.

Changes through time

Even though there are barely any changes in the form or decoration of textile tools in the course of time, a change occurs in the ceramic material. During the Late Iron Age, the firing processes of spindle whorls and spools changed. Before they were fired in an open hearth, but now they started to be fired in kiln structures (for kilns, see Acconcia, Aiello 1997; Nijboer 1995). The change is seen in the colour of *impasto*, which changes from predominantly greyish to clear colours with cores darker than exteriors. Similar change has been noted by Rasmus Brandt in the pottery of Ficana zones 3b-c. The changes in colour imply firing in an oxidising atmosphere. However, some of the vessels were still produced by hand for a longer period of time. These different groups of ceramic belonged, according to Brandt, to different modes of production. The first was an emerging, specialised or workshop production, the second a declining, traditional or household production (Brandt 2001, 407–408). The making of spindle whorls and spools is closely connected to the former, whereas loom weights continued to be made in households until Republican times when their production became professional. Then their clay and firing correspond to tile manufacture. In addition to ceramic production, the Late Iron Age in Central Italy was a time of craft specialisation in many other modes of production (Nijboer 1998). The change in the material of spindle whorls and spools suggests that this would have most probably influenced the textile-making activities also, namely specialisation in spinning and possibly tablet-weaving techniques.

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The Funeral Pyre Textile from Royal Tomb II in Vergina. Report on the 1997 Documentation, Treatment and Display

Abstract

The conservation of the funeral pyre textile of King Philip II of Macedonia, Greece, undertaken in 1997 in the Vergina Laboratory included examination (fibre identification, weave analysis, assessment of the state of preservation), experimental conservation treatment on previously treated and untreated fragments (removal of old consolidant, alignment of warp and weft, new consolidation) and mounting some fragments for exhibition. The textile is provisionally reported to be of cotton.

Introduction

In 1997, in the framework of the preparation for the exhibition of the royal tombs of Vergina (ancient Aigae) in the Museum Shelter (Dimakopoulos 1997), I was allocated the task of conserving and mounting for exhibition the funeral pyre textile found in tomb II, the tomb of Philip II of Macedonia, father of Alexander the Great (Andronikos 1978; Kottaridis 1999). The find was made in 1979 in the exterior of the barrel vaulted roof of the tomb among other burnt objects (Vergina 16.6.79 Megali Toumba Tafos II Kamara Plithia). It was found among earth, sand and gravel.

The burial environment was probably humid as measurements in the royal tombs and other tombs of the area have shown (Mariolakos *et al.* 2002).

Macroscopic examination, state of preservation and previous treatment

The textile was black in colour and in a fragmentary condition. It was examined macroscopically at the Vergina Laboratory (Moraitou *et al.* 1999) and was found to consist of two groups. One group was of small untreated creased fragments as they came from the excavation, together with wood charcoal and earth (fig.3). The fragments were creased forming lumps. The other group consisted of small fragments that had been opened up and consolidated. Too much consolidant had been used and the fragments were fixed on a polythene sheet in a pool of consolidant. The smallest fragment measured 1 x 1cm and the largest 6 x 8cm. The consolidated textile was stiff. The warp and weft were not aligned. The textile had been consolidated in 1979, most probably with a polyvinyl acetate polymer (PVAc) (Mowilith® 40 or 50 by Hoechst corresponding to AYAA or AYAF by Union Carbide in acetone) as was the practice of the period.

Microscopic examination

As part of the standard documentation of the find before treatment, the textile was examined under the available microscopic facilities (WILD LEICA M10 stereomicroscope) and found to be a simple tabby weave (fig.4). The textile, although fragmentary, charred and black in colour, showed a remarkable preservation of all its technological features and diagnostic morphological characteristics. Both warp and weft were Z-spun. There were approximately 25 warps and wefts per cm. Isolated fibres from the untreated group of fragments were examined at a magnification of x20 and seemed to preserve the characteristic convolution of cotton.

Experimental conservation treatment

Several fragments belonging to both groups were treated (fig.5):

Group A. *Previously treated.* One fragment supported on polyester net was placed over fumes of a mixture of acetone, ethanol and hot water. When wetted and relaxed it was immersed in ethyl alcohol 95% and was gently pressed with a brush while the solvent was stirred. The fragment was subsequently placed on blotting paper. It was found that the consolidant was readily reversible and the textile withstood the intervention although some fibre shedding was recorded both in the bath and on the blotting paper. An alternative method of removing past consolidant was the following: after the first step of relaxation, another fragment was placed on blotting paper and gently flooded with the solvent. Both methods had the same results as far as it was possible to assess empirically. If the fragment was left to dry, it became brittle. 1% Klucel G®, a hydroxypropyl cellulose by Hercules, in ethanol 95% was used for its new consolidation. Before complete drying, while relaxed, the yarns were aligned and the textile flattened with the aid of a wooden spatula, a sheet of Melinex® and a light table.

Group B. *Untreated.* The untreated fragments were extremely fragile but supple, not brittle. They did not support their own weight. A sample was tested with a drop of water and was found hydrophilic. Water alone or mixed with ethyl alcohol converted the yarns into an amorphous paste. If we tried to open it up, either dry or wet, it would split. Any attempt to remove soil before consolidation using a small sable brush would result in the destruction of fibres and disruption of the weave. Relaxing, opening up, flattening and aligning were performed in one step during consolidation using 1% Klucel G® in ethyl alcohol 95%. The use of 2% Klucel G® was tested but was too viscous and was not absorbed, while 0.5% was not enough and a second application was necessary. Drop impregnation was executed over blotting paper. The work was conducted under low magnification using a WILD LEICA M10 stereomicroscope. Consolidation imparted light cohesive strength not sufficient for handling the textile fragment.

Mounting and display

A mount was prepared using acid free card lined with white cotton domette and a cotton fabric. The fabric was dyed with Solophenyl® dyes by Ciba. The fabrics were affixed to the back of the card with

Fig.3 The Vergina pyre textile. Untreated fragments

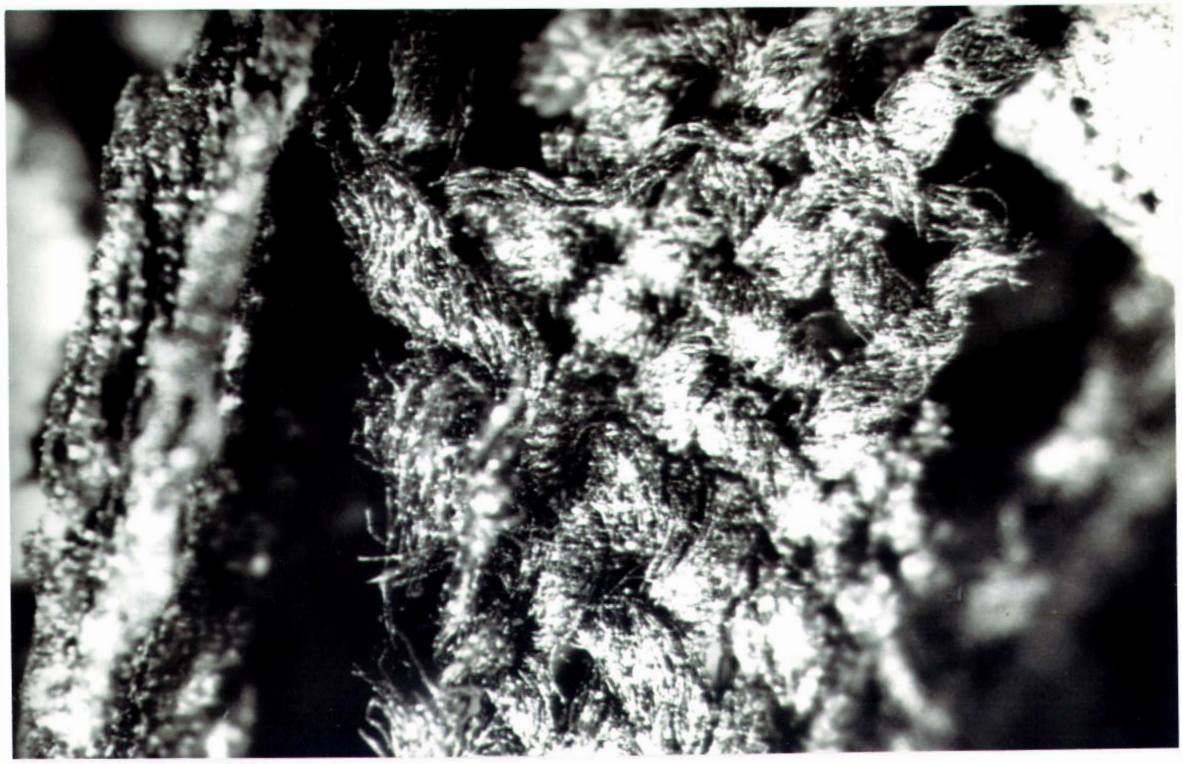

Fig.4 Stereomicrograph of the textile weave (original magnification x6.25 on 36mm B&W negative)

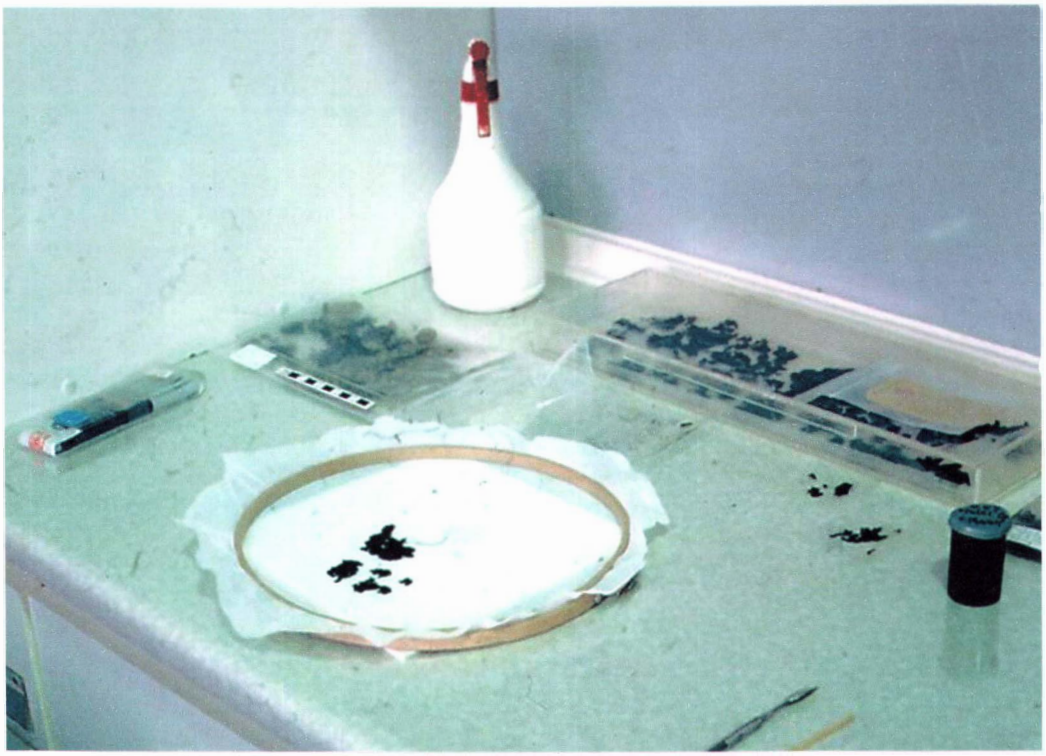

Fig.5 Conservation set-up in Vergina Laboratory

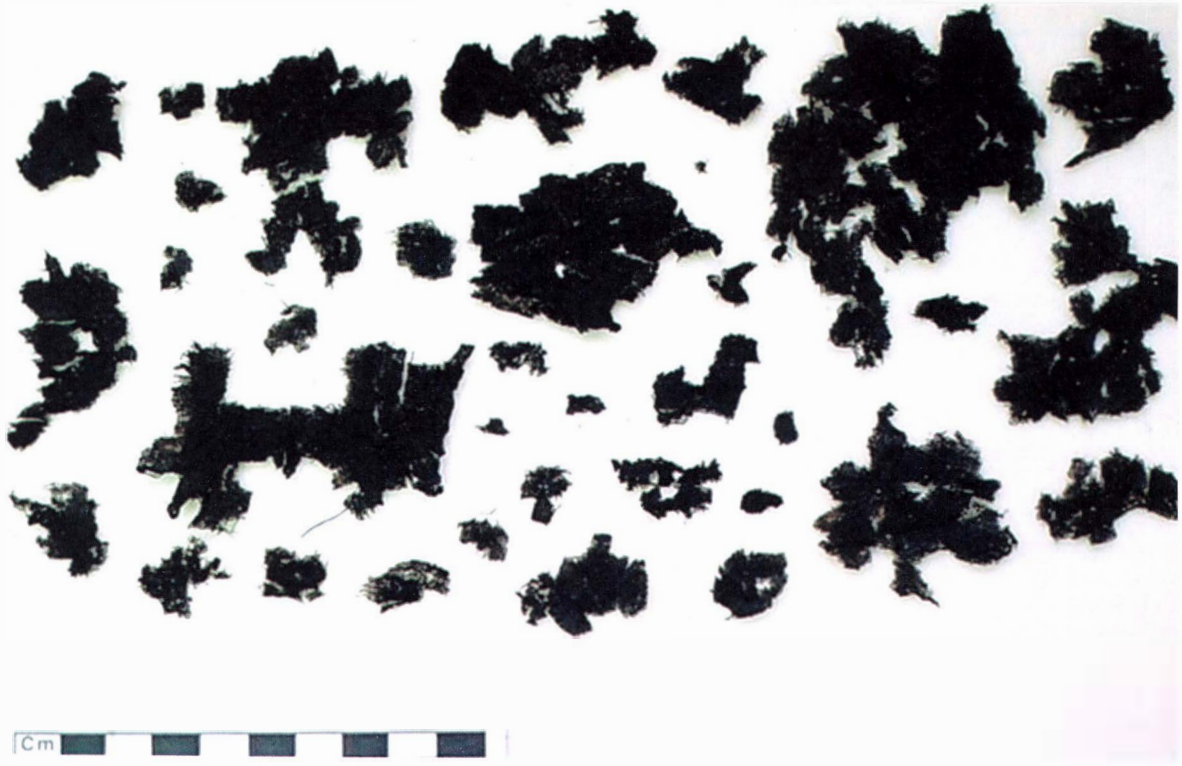

Fig.6 The treated fragments ready for exhibition

Mowilith® DMC2 emulsion. Only the 1997 treated textile fragments were exhibited, positioned on the horizontal mount (fig.6). They were intended to be secured mechanically by being covered with dyed silk crepeline, which was provided, but this was not approved by the archaeologist in charge, so the fragments were positioned loose on the support mount. The fragments were displayed in the Shelter in room C showcase no 8 with other debris from the pyre. The case was specially designed (Soulakis, Kottaridis) to maintain conditions of 55 ± 2% relative humidity and 18 ± 2°C temperature and light levels below 100 LUX (Moraitou, Mertzani 1996).

Discussion

At present the earliest cotton fabric found in Greece is the classical textile from Trachones in Attica, at the Athens National Archaeological Museum, which has been identified as made of cotton (Zisis 1954), but this old identification needs reassessment (Spandidaki 2004). It is very probable that the textile of the pyre is the first and only Hellenistic one in cotton. Preservation of ancient textiles due to charring in Greek archaeological burial contexts has already been reported (Moraitou, Margaritis 2005), although the difference between charring and carbonization (Cooke 1990) was not distinguished. Cooke also reported on the great detail preserved on fibres due to charring, i.e slow combustion, controlled by limiting the supply of oxygen. The practice of using PVAc as an on-site consolidant was general at this period in Greece but excessive concentration and quantity of consolidant was used in a very dessicating solvent. PVAc was also used abroad but its use is discouraged due to masking of characteristic diagnostic features (Ballard, Skals 1996). The use of hydroxypropyl cellulose was selected in the present work out of the literature (Hofenk-de Graaff 1981; Wilthew 1983) but it is not necessarily the best choice. According to Mertzani (2001), Klucel G®, tested on artificially aged sponge samples, was found to impart low strength and flexibility. A drawback in its use may be the fact that it gels and swells when put in a solvent, so this minimizes its safe reversibility.

Conclusions

The pyre textile was found to be a tabby woven fabric made of Z-spun yarns provisionally identified as cotton. If so, it is the only Hellenistic fabric of its kind identified at present. Scanning electron microscopy is necessary in order to make a more secure identification, as charred fibres are opaque. Although charred, the fibres and yarns showed a remarkable preservation of technological features and diagnostic morphological characteristics. The untreated fragments have remained well preserved since their discovery without any special climatic conditioning. The fragments consolidated in 1979, in a first aid intervention, were over-treated, but the consolidant, most probably a PVAc, remained soluble, so the treatment is considered reversible and the object retreatable. Nevertheless the method (resin, concentration, solvent) used in the past treatment is considered not appropriate as it made the textile stiff and extremely strong. It may be safe to conclude that charred textiles can be recovered from an excavation site without the use of any consolidant. They can then be studied and consequently treated (relaxed, restored and consolidated), if considered necessary, in the Conservation Laboratory, in one process, as they do not withstand successive treatments. The choice of the consolidation method is still open to comparative testing and applied research.

Acknowledgment

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The Process of Fulling Wool: Experiments in the Netherlands, 2004

Fulling by trampling was introduced by the Romans and persisted up to 1800 AD (fig.7). Remains have been found of Roman fulling pits in Northern France, recorded among other places at Douai, Aire, Hesdin and Arras. In the Middle Ages, the area we now know as the Southern Netherlands was well-known for so-called woollen 'Laken' ('cloth'). Wool processing activities were executed by professionals, each of whom took care of specific parts of the process.

The techniques leading to the final product included a dozen stages, which we intend to try out one by one. One of those was the so-called 'fulling'. During this process, rough woven cloth shrinks considerably and well-fulled material develops a dense, tight structure, difficult to stretch or be penetrated by water.

Fig. 7 Fulling. After a stained glass window in the Cathedral of Semur-en-Auxois, 15th century. (M. Pavon 1972, quoted in Sorber 1998)

Fulling agents

Different fulling agents could produce different effects. Old texts describe the use of butter, animal droppings, flour, soda, potassium, ammonia, lard, wine sediment, etc. Some materials were forbidden while in other cases they were prescribed.

Fuller's earth is a mechanical washing aid which soaks fat, dirt, stiffening material, soap and colourings loose from the fabric as well as absorbing them. It is a kind of clay which is colloidal (jelly-like). It is grey, yellowish or greenish. Reddish or brown fuller's earth indicates too much iron, which can be inconvenient to use. The content varies: 11-18% aluminium oxides, 42-44% siliceous oxides, 4-5% chalk or calcium carbonate, 2% magnesium oxides, 6-10% iron oxides, 5% soda and about 23% water.

Soap used for fulling must be as neutral as possible (Ph value). There should not be an overdose of alkali in it and it needs to have a low percentage of fatty acids. In solution, the soap lowers the surface tension of water and intrudes into the capillary space in-between the fibres. In this way, it works as an emulsifier and absorbs dirt and fat.

In the old days, human urine was used, forming a kind of mild soap together with the fats in the wool. Today, urine is still seen as one of the best agents for fulling. Water was used extensively in the whole process, with the washing beforehand, the preparation of the fulling earth, when dissolving the soap and finally in the rinsing of the fulled cloth. The water needs to be clear, free of iron and not hard.

Archaeological traces of fulling

The town archaeologist, Nico Arts, described the find of so-called 'black pits' in Eindhoven which could possibly be used as fulling pits. These pits were found in 1982. We used those as inspiration (Arts 1983, 1998). When looking closer at the archaeological data, the smaller pits are more or less circular and not deep. The bottom was paved with a simple mat of twigs. In some instances, the flat surface of the twig mat was covered with a thin layer of loam. The total number of pits under investigation consisted of three smaller and one larger one. The small basins are each 40cm deep and vary in diameter between 2m and 2.5m. The fourth is oval and is much larger and deeper: 3.5m to 4.5m in diameter and a maximum depth of 80cm. The thin layer of loam suggests the pits were filled with a liquid when in use. This pit was probably made for craft activities. It could be a kind of fulling basin. In the fulling process, the cloth is submerged in an alkaline liquid and trampled with the feet.

The actual process of 'fat' fulling

The fulling process required skill and sound experience. Different methods of fulling had developed in Europe. For our experiment, we decided to use the method of so-called 'fat' fulling in two phases, a process that takes 24 to 30 hours. Originally, stale urine was used. Nowadays, we use soap and bentonite.

When one fulls, one starts with trampling gently until the soaping of the urine with the oil and fat of the cloth has progressed to the stage where the textile has become more loose and voluminous. This is the sign for a tougher trampling motion to speed up the actual felting. The cloth is occasionally spread out and one checks if the width is the same everywhere. If this is not the case

Fig.8 The first stages of the fulling experiment in the Historisch OpenluchtMuseum Eindhoven (HOME), NL, 2004

(as often happens with handwork) those smaller areas get more attention. The total trampling might add up 12 to 16 hours. The cloth has then shrunk between 5 and 50%. The percentage of shrinking does not say anything about the success: it depends on how the original cloth was made. The cloth then still has to be cleaned (the second stage). Normally this is done with rinsing water, draining out, followed by using diluted fulling earth and some trampling. This step takes another 7–14 hours, most of it for the draining out.

The experiment

The goal of our experiment was not just to see if we could get the result needed with the activities we had in mind ('does this work?'), but also to list questions to be addressed in future experiments. We needed to identify the factors which played a role in the process, even if we could not yet control all of them.

The experiment was coordinated by Ing Toon Reurink, whose literature search, years of experience and practical insight prevented the team from making beginners' mistakes, and not only that. The activities were executed by members of the workgroup for textiles, all volunteers of the Historisch OpenluchtMuseum Eindhoven in the Netherlands, September 3–5, 2004. The

volunteers and employees of the Dutch museum are highly valued. To gain more experience, the activity was also performed as a demonstration in the archaeological museum of Biskupin, Poland, during their 10th archaeological festival, three weeks later.

For the experiment, a pit was dug. One-year-old willow branches were laid down, very tight and parallel to one another and cut into smaller pieces for the remaining two sides (fig.8). When trampling, the willow branches generally remained in place, though on occasion they had to be put back into place. During the second day, a fire place was set up - hot water is a necessity! The fulling earth - bentonite - was mixed with a little water, the cloth was made wet and sprinkled with the bentonite.

When the archaeologist Arts saw the actual process, he realised why no parasites (common to sheep) were found: the wool had already undergone many stages of preparation and cleaning. Extra information provided by Arts, on top of the publication and previous interviews, showed that there were actually two kinds of pits. A number were dressed with small branches, while the others were dressed with moss.

The woollen cloth was trampled and cleaned all the first day. The day after, we realised, the liquid in the pit had not sunk away, so we could not make a fresh start. The water contained clay and minor pollutants. At the beginning it was found that the trampling was better than the day before. But we could not clean the pit as it was too permeated with soap. The problems we had and could not overcome with the pits becoming polluted with sand and soap make us believe that different pits were used in the same process. In total, the test piece of cloth was trampled for 9 hours. The best way we could think of cleaning the cloth was using a washing machine with a cold wool wash programme. We stretched the cloth with nails to the wall in order to let it dry. When it was dry, the cloth measured 6.05m by 50cm. It had shrunk 11.7% in length and 16.7% in width. The cloth shrank to 7 (warp) by 9 (weft) threads per centimetre. The original sizes at the start were 6.85m by 60cm and 7-8 (warp) by 6-7 (weft) threads per centimetre.

In order to be better able to compare the experimental pit with the archaeological examples, it was decided to let the experimental pit 'rest' in the ground and have it excavated by the archaeologists who excavated the original pits.

The demonstration in Poland made clear that such an activity can be executed as a demonstration, without the experimental aspects suffering that much. Just like brewing beer, fulling consists of several monotonous activities which leave plenty of time for explanation.

Explaining to the public that textiles in the past were not just an easy-to-throw-away-article is an eye-opener. Textiles stood at the brink of the Industrial Revolution, which was so important for the creation of today's world. In other words, discussing textiles nowadays is relevant.

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Hallstatt Revisited

Anlässlich des Symposiums über Hallstatt-Textilien, dass im September 2004 von der Österr. Gesellschaft für Textil-Kunst-Forschung, dem Naturhistorischen Museum Wien und der Universität für Angewandte Kunst organisiert wurde, konnte vor Ort die Thematik der Hallstatt-Textilien

eingehend erörtert werden (Bichler *et al.* 2005). Ebenso wurde auf die textilen Funde vom Dürrnberg bei Hallein, die zeitlich an die Hallstattzeit anschließen, eingegangen und die Unterschiede zu Hallstatt-Textilien definiert.

Konnten am Dürrnberg bereits spezialisierte, lokale 'Handwerksbetriebe' nachgewiesen werden, liegt der Ort der Erzeugung der Hallstatt-Textilien noch im Dunklen. Die seit 1846 permanent durchgeführten Grabungen in Hallstatt dokumentieren über 1000 Grabstellen. In keinem dieser Gräber im Hochtal von Hallstatt wurden Grabbeigaben, wie Webgewichte oder Spinnwirteln, die auf eine textile Produktion hinweisen gefunden. Bemerkenswert ist auch die Studie von Michael L. Ryder (1992) über Faserreste auf Leder und Häuten in Hallstatt. Er weist in dieser nach, dass es bei diesen, vereinfacht gesagt, keine Übereinstimmung mit den Hallstatt-Textilien gibt. Die untersuchten Fasern auf Leder und Häuten, von denen wir annehmen können, dass sie von lokalen Tieren stammen, weisen den alten/primitiven, haarigen Fasertypus auf. Im Gegensatz dazu werden in den Hallstatt-Textilien schon wollige Fliestypen höher entwickelter Rassen gefunden.

Diese beiden Aspekte legen nahe, dass die Hallstatt-Textilien nicht in Hallstatt erzeugt wurden sondern, wie viele andere geborgene Luxusgüter verhandelt wurden. Diese Absenz von lokalen textiler Erzeugung im hallstättischen Zeitrahmen ist ungewöhnlich, zeigen Ergebnisse von Ausgrabungen, in anschließenden und benachbarten Tälern eine aktive textile Produktion. Dr Fritz Moosleitner vom Salzburger Museum Carolino-Augusteum leitete, u.a. die Grabungen in Bischofshofen und Uttendorf/Pinzgau, über die er im Katalog *Das hallstattzeitliche Gräberfeld von Uttendorf im Pinzgau* (Salzburg 1992) berichtet. Daraus folgende Auszüge, die sich auf das textile Element und das Umfeld beziehen:

'Der Ortsname 'Uttendorf' findet sich zweimal auf österreichischen Landkarten.

Uttendorf im oberösterreichischen Innviertel, im Tal der Mattig gelegen, ist den Freunden der Ur- und Frühgeschichte seit langem als bedeutender Fundort der Hallstattzeit bekannt. An der Stelle der Burg von Uttendorf lag vermutlich ein hallstattzeitlicher Fürstensitz.

Der zweite Ort mit dem Namen Uttendorf hat ebenfalls bedeutende Grabfunde der Hallstattzeit erbracht, die bisher jedoch auf Grund fehlender Publikationen noch wenig Beachtung gefunden haben (Text von 1992). Uttendorf im Pinzgau liegt im oberen Salzachtal zwischen Zell am See und Mittersill. Die Salzach fließt von ihrem Ursprung bei Krimml rund 100km Richtung Osten, bis sie bei Schwarzach nach Norden hin umbiegt. Das Alpenlängstal bildet eine wichtige inneralpine Verkehrslinie, von der aus eine Reihe von Passwegen über die Tauern nach Süden abzweigen. Über das Saalachtal und das Quertal der Salzach ist diese Ost-West-Passage mit dem nördlichen Alpenvorland verbunden.

Wie die meisten Orte im oberen Salzachtal liegt Uttendorf ob der 'Sonnenseite', auf dem Schwemmkegel eines Baches am linken, nördlichen Talrand. Das hallstattzeitliche Gräberfeld befindet sich rund 500m westlich des Ortskerns auf einem flach geneigten Hang rund 30 bis 50m über dem Talboden.

Das Gräberfeld von Uttendorf hat eine Flächenausdehnung von ca. 5000m², dessen Belegung nach Ausweis der Grabbeigaben am Beginn der Älteren Eisenzeit - der Hallstattzeit - einsetzt. Der Zeitpunkt des Übergangs von der Urnenfelderperiode zur Hallstattzeit wird in die Mitte des 8. Jh. v. Chr. datiert. Fundgegenstände aus dem Gräberfeld stellen durchwegs charakteristische Formen der Älteren Hallstattzeit dar (Stufe Hallstatt C nach P. Reinecke). Die Belegung des Gräberfeldes endet in der 2. Hälfte des 7. Jh. v. Chr. noch vor dem Übergang zur nachfolgenden Phase der Hallstattzeit (Stufe D nach P. Reinecke). Der Zeitansatz erfährt durch die Keramikimporte aus Norditalien eine Bestätigung. Die in Uttendorf gefundenen Formen venetischer Keramik gehören durchwegs der Stufe Este IIb an, die zwischen 750 und 680 v. Chr. datiert wird, und treten vereinzelt noch in Este IIc auf (680-620 v.Chr.). Die Belegungszeit beträgt demnach rund 100 bis maximal 150 Jahre. Für die Einwohnerzahl errechnet sich damit - bei einer geschätzten Zahl von ca. 700 Bestattungen - eine Obergrenze von rund 200 Personen. Innerhalb des Gräberfeldes lassen sich soziale Rangunterschiede

erkennen. Es zeigt sich, dass die Mehrzahl der reicher ausgestatteten Gräber am westlichen Rand des Friedhofareals liegen.

In sieben Frauengräbern der Nekropole von Uttendorf fand sich je ein Satz steinerner oder tönerner Webstuhlgewichte. Vorherrschend sind trapezförmige, durchbohrte Webgewichte aus Stein (Schiefer, Grünstein), die zum Teil eingeritzte Verzierungen tragen. Daneben kommen auch ringförmige Gewichte aus gebranntem Ton vor. Spinnwirteln sind in Uttendorf nur in drei Frauengräbern belegt. Die Webgewichte und auch die Spinnwirteln zeigen Spuren von starker Hitzeeinwirkung. Man darf annehmen, dass vollständig gerüstete Webstühle mit aufgespannten Kettfäden, bzw. ein Spinnzeug auf den Scheiterhaufen mitgegeben wurden. Spinnwirtel und Webgewichte finden sich durchwegs in Frauengräbern mit überdurchschnittlicher Schmuckausstattung. Die Herstellung von Stoffen für die Kleidung zählte offensichtlich zu den vornehmsten Aufgaben der Frauen. Zwar sind keine Originalstoffe erhalten, der Rost zahlreicher Eisengegenstände (aus den Männergräbern) hat jedoch Gewebereste bewahrt. Neben einfachen Geweben in Leinen- oder Köperbindung sind Panamastoffe belegt. Durch streifenweisen Wechsel der Drehrichtung des Zwirns (besser, des Garns) erzielte man Streifen- oder Karomuster. Als Rohmaterial fand vor allem Schafwolle Verwendung, daneben sind auch Flachsfasern und in einem Geweberest Rosshaar in der Kette nachgewiesen worden. Die Sitte der Beigabe eines Webstuhles auf den Scheiterhaufen haben die Leute von Uttendorf aus dem Süden übernommen, sie ist vor allem bei den Venetern, aber auch bei anderen Völkerschaften im Südalpengebiet belegt. Vergleichsstücke zu den aus Stein geschliffenen Webgewichten mit Ritzverzierung kennt man ebenfalls nur aus dem Südalpengebiet (auf diesen Zeithorizont bezogen). Nördlich der Alpen hat man in der Hallstattzeit nur aus Ton geformte Webstuhlgewichte verwendet.

Die Grabbeigaben (Keramik, Nadeln, Fibeln) der Gräber von Uttendorf lassen erkennen, dass die Bewohner dieser Region in der Hallstattzeit weitreichende Handelskontakte unterhielten. Die wirtschaftliche Grundlage für den Fernhandel ist in den Bodenschätzen des Pinzgaus zu finden. Rund zwei Wegstunden oberhalb des Gräberfeldes, im Gebiet der Vierthaler Alm, Seehöhe 1611m, hat der prähistorische Kupferbergbau unübersehbare Spuren hinterlassen.

Ähnliche Bedeutung wie Uttendorf kommt dem Gräberfeld am Pestfriedhof in Bischofshofen zu, das seit 1983 von einem Grabungsteam der Universität Innsbruck/Wien untersucht wird. Der Fundort Bischofshofen liegt ebenfalls im Tal der Salzach, und zwar flussabwärts, rund 60 km von Uttendorf entfernt (geographisch zwischen Uttendorf und Hallstatt). Die überwiegende Anzahl der geschätzten 800–1000 Gräber gehören ebenfalls in den älteren Abschnitt der Hallstattzeit und sind somit zeitgleich mit Uttendorf. Trotz der weitgehenden Übereinstimmung mit Uttendorf sind kleinere Unterschiede in der Grabausstattung nicht zu übersehen. So findet sich in Bischofshofen fast in jedem Frauengrab ein oder mehrere Spinnwirtel (in Uttendorf nur dreimal belegt), hingegen ist in Bischofshofen die Beigabe eines Webstuhls nur in einem Fall nachgewiesen.'

Es ist bemerkenswert, dass in den drei erwähnten hallstattzeitlichen Siedlungplätzen, Uttendorf, Bischofshofen und Hallstatt einerseits Ähnlichkeiten in den inneralpinen Lebensumständen wie z.B. die komplexe Anforderungen des Bergbaus und daran knüpfende ausgedehnte Handelsbeziehungen vorliegen. Andererseits scheinen große Unterschiede im Zugang zum textilen Element auf. Grob vereinfacht könnte man sagen, dass es für Frauen von noblen Rang in Uttendorf bedeutend war selbst zu weben und sogar mit dem Webstuhl begraben zu werden, dem Spinnen jedoch wenig Bedeutung beizumessen. Im gleichen Zeitrahmen ergibt sich in Bischofshofen das Bild von Frauen, die besonderen Wert auf das Spinnen legen. In der 'internationalen Metropole' von Hallstatt konnten sich Frauen anscheinend nicht für das textile Schaffen begeistern, bzw. ließen es ihre Lebensumstände nicht als opportun erscheinen.

Die relativ dichte Besiedelung dieses inneralpinen Raumes, trotzend den schwierigen Lebensbedingungen, lässt als wichtiger Rohstofflieferant und als Handelsdrehscheibe zwischen Süd und Nord, noch viele unbeantwortete Fragen offen.

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Irrigation and the Spread of Cotton Growing in Roman Times

Cotton, whatever its species, is known to be a thirsty crop: it demands at least 500mm of rainfall per annum. In India the monsoon provides this, but in the Near East man must cover the deficit by irrigation, and that, we suggest, is a highly significant factor in the development of cotton cultivation in the ancient world.

At a conference held in Athens in November 2005 (*ATN* 42, 33) we reviewed the evidence for the geography of the cotton industry in Roman Egypt and beyond. The detailed argument and full references will be published in due course in the conference proceedings (Wild, Wild, Clapham forthcoming); but as articles in this number of *ATN* and its predecessor demonstrate, the 'cotton story' is constantly being up-dated, and it seemed appropriate to present here in interim form some of the conclusions of that paper, supplemented by thoughts arising from new work at Qasr Ibrim in Lower Nubia.

Evidence pointing to centres of cotton production in the Roman period is derived from several disciplines. Historical, geographical and botanical writers such as Herodotus (fifth century BC), Theophrastus (fourth century BC) and the Elder Pliny (first century AD) chart the spread of cotton cultivation from India into the Gulf and its eventual establishment in (vaguely specified) parts of Egypt. The Egyptian documentary sources - papyri, ostraka and accounts on wooden boards - speak of or imply cotton plantations at individual sites. Palaeobotanical research plays an increasingly prominent role: site finds of cotton bolls and cotton seeds in statistically satisfying quantity are unequivocal indicators of a local cotton crop. The distribution of finds of cotton cloth, while suggestive, is a weaker indicator, given the brisk trade in textiles in the Roman provinces.

Mapping the data available from the sources listed above draws attention at once to the role of oases as the preferred environment for cotton growing: the common denominator is the proven presence of a managed system of irrigation.

At Kellis (modern Ismant el-Kharab) in the Dakhleh Oasis (fig.9) not only are the surviving agricultural accounts explicit about cotton growing in the fourth century - there is a named cotton measure, the 'stone' - but there are palaeobotanical remains of seeds and cotton bolls, together with finds of cotton cordage (mentioned by Rosanne Livingstone below, page 20) and cotton textiles. An irrigation system is attested, too.

In the Kharga Oasis, some 200km east of Dakhleh, a papyrus (without exact provenance) refers to a cotton crop as early as *c.*AD 164-5. The 'stone' is again cited in documents from Kysis (Dush) at the southern end of the oasis. At Ed-Deir at the northern end cotton cordage was used in funerary contexts (*ATN* 43, 20-27), while in the area covered by the North Kharga Survey not only have cotton (and fustian) textiles come to light (*ATN* 43, 27-32), but cotton seeds in mud brick. As to irrigation, there are archaeological traces of pipelines fed by wells and a network of underground channels.

In the Fayum there is no direct evidence yet for cotton growing, although irrigation systems have been located in survey.

An association between artificial watering and cotton cultivation has also been noted outside Egypt. In the Fazzan in southern Libya agriculture was made possible by irrigation through underground channels: discovery of cotton seeds suggests that cotton was a local crop. In Palestine the spring of Ain Sultan watered the Jericho

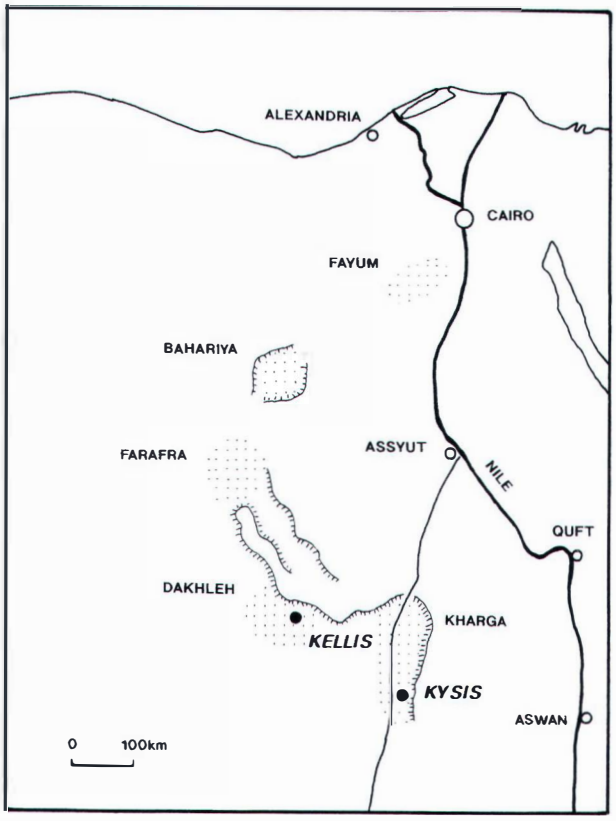

Fig.9 Map of the oases in the western desert of Egypt. (Drawing: J.P. Wild)

oasis in the Jordan Valley, where in the sixth century AD - and, locals claimed, much earlier - cotton was planted and attracted pilgrims' attention.

The output of cotton from the oases, however, pales into insignificance when compared with that of Lower Nubia, a region on the Upper Nile which fell within Rome's zone of influence, but only rarely under its direct political control. At Qasr Ibrim, 233km upstream from Aswan, some 80% of the textiles datable to the first four centuries AD are of cotton. Almost every occupation layer in the houses on the acropolis contains wads of cotton lint, crushed seeds with lint still attached, loose S-spun cotton yarn - and occasionally complete bolls. Cotton had apparently replaced flax as the principal local fibre crop, but Lake Nasser now covers the high-level river terraces where the cotton plantations may have been. How they were irrigated is not clear; for the *saqia* water-lifting wheel is not thought to have been introduced to the region until late antiquity, while radiocarbon dating suggests that cotton was already important at the site by the first century AD.

Excavation has revealed something of the technological background to the Lower Nubian cotton industry. While it is not clear how the lint was detached from the seeds, the fact that the latter are often crushed may be an indication of the use of a roller or similar tool. Yarn was very strong S-spun on a wooden high-whorl spindle with a small peg through the tip. Rough globular mud loomweights with a single eccentric hole for suspension (the string attaching them to the warp is often still extant) point to the use of the warp-weighted loom, as does the presence of flat-woven starting borders on cotton fabrics, similar to those of northern Europe. It may be claimed that there was a specific 'cotton culture' in Lower Nubia, defined by distinctive traditions of cotton growing and preparation, yarn spinning, and weaving on the warp-weighted loom - an implement that had vanished from most of the Roman Empire.

The discovery of numerous mud loomweights in later Roman contexts at Kellis in the Dakhleh Oasis, coupled with the very strong evidence for a local cotton industry here and in the neighbouring Kharga Oasis, makes one suspect a link between Nubia and the oases of the western desert. There is no hint of a cotton industry in the Nile Valley itself. Alan Clapham suggests (Clapham, Rowley-Conwy forthcoming) that the 'Forty-days Road' (*Darb el-Arba'in*) between Nubia and Kharga was more than just a camel trail: rather, it was the route along which the 'cotton culture' was diffused to the oases, where the requisite irrigation technology and infrastructure had long existed.

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Reports

Discovery of a unique Chamber Tomb in Poprad-Matejovce (Slovakia)

Set deep below the surface, a solitary wooden construction was accidentally discovered during earthworks at an industrial area in Poprad-Matejovce (Northern Slovakia) in autumn 2005. Its archaeological dating of 380 ± 27 AD having been confirmed (by Leibnitz-Labor für Altersbestimmung und Isotopenforschung, Christian-Albrechts-Universität, Kiel), it was fully excavated between July and November 2006, a cooperative undertaking between three institutes - Podtatranské Múzeum in Poprad, the Archaeological Institute of the Slovak Academy of Sciences in Nitra and Stiftung Schleswig-Holsteinische Landesmuseen, Schloß Gottorf in Schleswig. An interdisciplinary research programme consisting of archaeobotany, geology, palynology, dendrochronology, organic material studies etc. brought to light the first preliminary, but in fact very interesting, results.

Flooded by ground water and mud, the perfectly preserved construction turned out to be a double chamber with the entrance on the eastern side (fig.10). Presumably there was originally a mound built over the grave, which has not been preserved. An outer log-built chamber, 280 x 390cm, was set in impermeable bedrock and insulated by a charcoal layer from outside. The chamber itself stood on a platform of twelve long timbers at a depth of 495cm from the original surface. It was overlaid by massive horizontal timbers 440cm long. The inner, sarcophagus-like chamber of frame construction, measuring 170 x 290cm, had its own gabled roof. Both chambers were built out of larch wood. During excavations, it was proven that the grave was robbed not long after the burial. This was attested by displaced grave goods, remains of a human body lying in a secondary position, the collapsed wall of the inner chamber and the lack of precious artefacts. Only the south-eastern part of the outer chamber is considered to be intact, containing several ceramic pots, remains of meat, a basket with shears and a bronze cauldron. From other parts of the grave, it is worth mentioning a silver awl with a wooden handle, a bronze arrowhead and a board game with playing stones (*calculi*). The only precious artefact is a pendant made of a golden coin of the Roman emperor Valens (375 AD). It was found in a narrow space between the two chambers, supposedly fallen down when the grave was being robbed.

The well preserved burial with its inventory including mainly wooden, leather and textile objects is considered to be of high value, seeing that for the first time we are dealing with a great amount of organic material in a sealed context. Among the artefacts mentioned above there were also many remains of leather, textiles and various kinds of furniture (e.g. a chair or a table), which were made mostly of yew or poplar wood. Unfortunately, the most fragile and decaying furnishings were the textiles and therefore they were carefully taken out as *in situ* blocks for further and more detailed research in laboratory conditions (fig.11). They occurred everywhere in and outside the chambers, mostly spreading in several layers over the body of the deceased. Together with different pieces of leather, they were presumably parts of clothing, decoration of the inner chamber or upholstery of the furniture present. In the textile layers associated with the human bones, there were golden stripes, highlighting the richness of the materials used and the high quality of the inventory of the original inner chamber.

The tomb testifies to the high architectural level in the Carpathian Area at the turn of the 4th and 5th centuries AD. Moreover, the grave inventory points to the princely status of the deceased and provides new knowledge about the close relations between the German elite and the still influential Roman Empire. Last but not least, we will finally be able to draw a more precise picture of the textiles, their form and function at that time.

Fig.10 Poprad-Matejovce, outer and inner chamber of the tomb during excavation, with the gabled roof fallen inside. (Photo: Miroslav Vrablec)

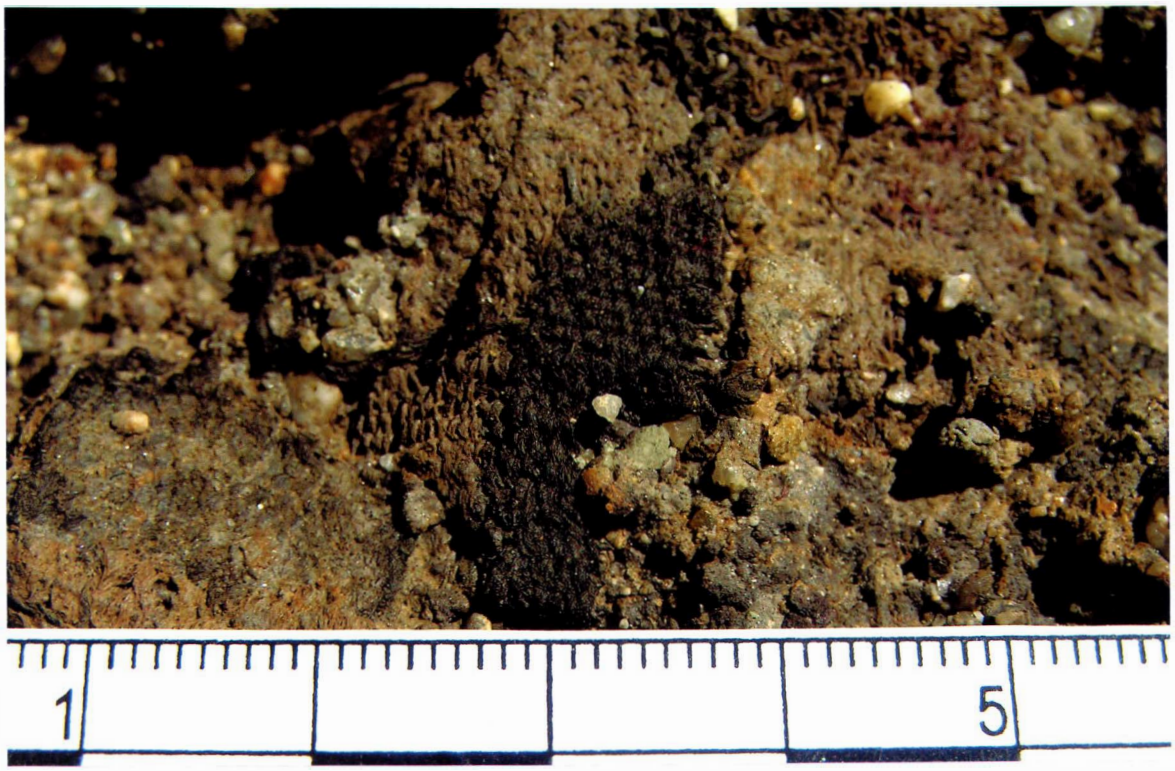

Fig.11 Poprad-Matejovce, in situ *block of textiles taken out from the 'robber's shaft', outside the outer chamber. (Photo: Tereza Belanová)*

Having excavated the find, a working group of specialists from all over Europe has been created to work out a project for financing the conservation and restoration of this unique historical phenomenon from the beginning of the Migration period. It will be a long and laborious process to reconstruct and return the whole grave back to its original environs situated under the High Tatras in Poprad.

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The Textiles from Kellis, a Roman-period Village in Egypt

Earlier this year I spent six weeks in the Dakhleh Oasis in Egypt's Western Desert carrying out a detailed examination of the 4th century CE textiles from Kellis (modern Ismant el-Kharab). The farming village of Kellis was occupied for approximately the first 400 years CE. Towards the end of the 4th century the village was abandoned; it was rapidly covered with sand, and remained virtually untouched until a team from Monash University, Melbourne, Australia began excavating there in 1986, under the direction of Dr Colin Hope. Kellis forms part of the concession granted to Monash University under the auspices of the Dakhleh Oasis Project (Hope 1990, 43, 53).

My research is a continuation of work previously carried out on the textiles by my PhD supervisor, Dr Gillian Bowen (2002). Although my thesis focuses on dress and identity, I am looking at all the textiles. This is because the majority of the textiles are small fragments and it is not easy to distinguish between clothing, household furnishings or funerary textiles without undertaking a comprehensive examination of them.

During the 2007 season I examined 150 textiles including 4 complete/nearly complete garments, as well as samples of fibre and textile tools. As I have not completed the analysis I cannot make the results available at this time. However, one interesting and unexpected discovery was that although all the woven funerary textiles are made from linen, some of the cords used as ties are cotton. The ties found with the remains of one skull cloth consisted of 8 strands of s-spun undyed cotton thread, very loosely Z-plied together. These cotton ties are similar to those from the nearby Kharga Oasis photographed and described by Letellier-Willemin and Moulherat (2006, 21, 23, fig.16). Cotton was grown in Kellis in the 3rd and 4th centuries; this is known both from contemporary texts and the cotton bolls and fibre found at the site (Bagnall 1997, 115, 123; Worp 204, 73-4; Thanheiser *et al.* 1999, 303).

I will continue my examination of the Kellis textiles during the 2008 season in the Dakhleh Oasis.

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Notes and Queries

Wool Fibre Study of Ancient Textiles

The Centre for Textile Research (CTR) at Copenhagen University is launching a study on wool fibres from Northern Europe, with the aim of investigating the potential of some tracing systems (mainly Strontium isotopes) to make a link between feeding ground characteristics (reflected by the grass which is consumed by the respective animals) and the isotopic composition of the hair/fur itself. This relationship is of importance to archaeologists and historians, who are interested in gaining understanding of the provenance of wool from which ancient textiles were manufactured. With the help of geochemical data which is extracted from the wool, we hope to give qualified answers to some questions that have not been answered yet.

We are investigating a geochemical system, now expanded to natural ecological systems and further on to fauna and humans. This particular isotope tracing system has been in use for decades in archaeological studies, to address questions regarding prehistoric human migration and even trading routes. In this new study, we want to apply it directly to wool fibres and to soil extracts, in the hope of pinpointing a possible connection between them, i.e. to identify a potential fingerprint of the soil and therefore the region of interest. We anticipate that Sr is transferred to plants and further on to the animals. The isotopic signature of Sr, given that there is no stable fractionation of Sr isotopes during uptake, will then be characteristically incorporated into the hair. With some geological knowledge at base, the characteristic isotopic signature of hair can then be related to potential feeding ground developing over geological strata (rocks), and thereby enable us to elaborate on possible provenance of the wool.

I was granted a three-year PhD project at the end of 2006 by the Faculty of Humanities, University of Copenhagen, to conduct this (isotope)-geochemical study on ancient textiles with the Centre for Textile Research.

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Review

Textiles of Verucchio, Cologne, Germany and Verucchio, Italy, 12-15.10.2006

Archaeological textiles found in the 1970s in Villanovan burials at Verucchio, close to the Adriatic coast of Northern Italy, represent some of the largest and most important textile finds of the European Iron Age. A meeting organized by Annemarie Stauffer at the University of Applied Sciences in Cologne provided an overview of the first ten years of research on this fascinating material.

The meeting commenced with an evening lecture by Annemarie Stauffer, who presented the research project and discussed challenges encountered along the way. The next day, the participants were welcomed by Professor Metzner, Rector of the University of Applied Sciences in Cologne, and Giovanni Dolci, Assessor of Culture and Tourism of Verucchio, who praised the Italo-German collaboration and thanked project participants in the name of the citizens of Verucchio. Patricia von Eles, the director of the Verucchio Museum, gave an overview of Villanovan Culture at Verucchio and the numerous research projects currently encompassing the extensive Verucchio material. Next, Annemarie Stauffer presented the methodological approaches and results to date of the investigation of textiles from the male burials. This report was supplemented with talks by Lise Raeder Knudsen, who has been investigating the complex tablet borders of

the Verucchio textiles, and Ina Vanden Berghe, who summarized the ongoing investigation of dyes. In the afternoon, Christoph Moulherat discussed new finds of Villanovan textiles from San Basilio and Tarquinia, while Margarita Gleba gave an overview of textile tools in the Villanovan period in Italy. The participants were then invited to view and discuss the textiles (fig.12). Several almost complete male garments were on display, including the recently published material from Tomb 89 (von Eles 2002). The publication of the material from other male tombs is in progress, while the female garments await study and conservation.

The presentations were over, but the meeting continued next day in Italy. A group of participants flew to Bologna, proceeding from there to the charming Medieval hill-town of Verucchio, where they were generously hosted by Patricia von Eles and the town of Verucchio. Here, an opportunity was given to see the spectacular grave finds from Verucchio, which apart from textiles included other precious organic materials, such as wood and amber. Large quantities of spinning and weaving tools in rich female graves underlined the importance of textile production in Villanovan society. The throne of Verucchio with its depictions of textile production scenes stole the day. The visit ended with the viewing of the exhibition 'Power and Death', which featured a reconstruction of one of the *tebenna*-like mantles of Verucchio (fig.13).

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Resources

Recent Publications

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Fig. 12 Professor Annemarie Stauffer presents the Verucchio textiles in Cologne. (Photo: M. Gleba)

Fig. 13 The Reconstruction of a Verucchio mantle, in Verucchio. (Photo: M. Gleba)

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Yatsenko, Sergey A., *Kostyum drevney Evrazii [iranoyazychnye narody]* (Costume of Ancient Eurasia: the Iranian-speaking Peoples), Vostochnaya Literatura Publishing House, Moscow 2006 (in Russian, with English summary, list of illustrations and contents: 661 pp, 222 figs) [ISBN 5-02-018495-0]

(The book can be bought for cash only (330 roubles, 10 euros) at the Publishing House building, Tsvetnoy bulv. 21/2, Moscow 127051 (next building to left of Tsvetnoy bul'var underground station))

The volume is a comparative study of the clothes of the Iranian-speaking peoples - the largest linguistic group in ancient Eurasia - from their appearance in world politics and in the written sources of the seventh and sixth centuries BC to the Islamisation of Iran and Transoxiana in the seventh and eighth centuries AD. It covers clothing evolution, the aesthetic ideals of different ethnic groups reflected in costume, international costume contacts, the representation of Others in art and costume rituals in the Iranian world.

Summary

In the later period of ancient history the numerous Iranian-speaking peoples formed one of the largest linguistic and cultural groupings. Their costume was considered to be among the most luxurious, having complex forms, an abundance of gold appliqués, pearls, glass beads and gold embroidery, based on expensive bright fabrics and headdresses. Many realistic depictions of people in the Iranian world survive, giving a unique opportunity for reconstruction, comparative analysis and research into the costume heritage of Eurasia. Some Iranian peoples were creators of vast empires, lived in zones of frequent migration or controlled important trading routes. Their costume is therefore a valuable source for elucidating problems connected with the mechanisms of costume contact in traditional societies.

Most publications on ancient Iranian costume of the pre-Islamic period are devoted to the minor clothing accessories, since they are more spectacular. The clothing of many ancient peoples, even those where ample sources are available, has to date not been studied fully. Rather, attention has been drawn to a few ancient ethnic groups (eg the Scythians, Parthians and Tokharistanians), notable for the gold costume accessories from their aristocratic burials and detailed contemporary anthropomorphic images.

This volume covers the period from the seventh century BC to the eighth century AD. Not included are costume accessories (except belts), military costume, rulers' crowns and the costume materials themselves; hairstyles, however, and sometimes tattoos are considered.

The three main chapters review costume chronologically: 1. the Achaemenid-Scythian period (7th to 3rd century BC); 2. the

Parthian-Sarmatian period (3rd century BC to 4th century AD); 3. the Sassanian and Early Medieval period (4th to 8th century AD). The chapters themselves are divided into sections dealing with 13 peoples, some of whom span several periods. The abundant and multifarious information on their costumes, the clothing of real life, forms a large corpus of research material, which because of its statistically acceptable size offers a productive and reliable basis for study.

The main tasks of the book are: 1. the reconstruction of the appearance of the ethnic clothing assemblage for each of the individual peoples - silhouette, cut and decorative principles; 2. eliciting the aesthetic ideals of the different ethnic groups in costume terms and defining the degree of authenticity in costume representation; 3. comparative analysis of the costume of contemporary peoples in each of the three main historical horizons and charting their evolution; 4. looking back towards the original costume of the most ancient Iranians and the traces in costume terms of the Iranian penetration west of Iran; 5. eliciting the character of the costume contacts of the ancient Iranian-speaking peoples; 6. analysing the data on significant, but little studied, functions of the costumes with the aim of defining the particular character of the Iranian world and some of its peoples.

The approach adopted includes the following elements: 1. characterisation and evaluation of sources for each of the peoples in the study; 2. examination of the remnants of costume decoration from burials, using only high-quality publications and excluding fragmentary images and images of deities; 3. analysing the material on linguistic and ethnic principles; 4. considering all the main costume attributes of an ethnic group as a single costume assemblage reflecting the character of a people; 5. describing the costume of each ethnic group under the heads of the three main chapters; 6. reviewing the ethnic complexes in the light of contemporary, earlier and later groups; 7. examining the factors influencing costume evolution; 8. compiling a special summary table on the costume of each people, including illustration.

(Summary based on text of English summary by S.A.Yatsenko published in the above volume.)

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News in Brief

NESAT X: Copenhagen, 14-17 May 2008

The Tenth Jubilee Symposium of the North European Symposium for Archaeological Textiles will take place in Copenhagen on 14-17 May 2008, organised by the Danish National Research Foundation's Centre for Textile Research (CTR) in cooperation with the Department of Conservation at the National Museum of Denmark and the Lejre Experimental Centre.

NESAT X will be based on open call and the papers to be presented will be selected by a scientific committee, consisting of the members of NESAT steering board and members of the organising committee. While the number of papers will necessarily be limited, we would like to encourage the use of posters as a way of presenting material.

Particular emphasis will be given to papers in the following areas of textile research:

1. The history of textile research. The jubilee symposium provides an appropriate forum to reflect on how far it has come in the past 27 years.

2. New methodologies and approaches in textile research, particularly advances in conservation and analyses of archaeological textiles.

3. Experimental textile archaeology.

Paper submission. The title and a short abstract (300 words) should be submitted electronically to ctr@hum.ku.dk by 1 July 2007. Please include your full name, affiliation, contact information and e-mail address.

Please check CTR website regularly for new announcements: www.ctr.hum.ku.dk

Transfer of *ATN* to Copenhagen

From spring 2008, the Centre for Textile Research in Copenhagen (CTR) will take over publication of *ATN*. We are honoured and excited to be handed the editing and publication of *ATN*. We hope to continue the excellent work of previous editors in providing a forum for researchers in textile archaeology. Because CTR is a temporary 'centre of excellence', the management of *ATN* will be handled through a specially set up trust in Denmark, which should ensure *ATN*'s existence in the long term. The format of the *ATN* will remain the same but the layout will be digitised and updated. The layout, editing and publication are to be handled by the new editors, Ulla Mannering, Eva Andersson and Margarita Gleba. Review of the articles will be done by the members of the expanded scientific board (formerly editorial board). Subscription payment will also be computerised via a secure website, which will have an option of paying with credit cards – this should make the subscription and payment easier. A special electronic address will also be created for *ATN*. Publication dates will remain twice yearly.

Starting in December 2007, contributions to *ATN* should be sent to the new editors electronically or by mail to the addresses listed below. See current *ATN* issue for guidelines and format.

More information on the *ATN* transfer will be available in the next *ATN* issue. In the meantime, please check the CTR website www.ctr@hum.ku.dk for updates.

For questions or suggestions, contact us electronically:

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Guidelines for Authors

The *Archaeological Textiles Newsletter* aims to provide a source of information relating to all aspects of archaeological textiles. Archaeological textiles from both prehistoric and historic periods and from all parts of the world are covered in the *ATN*'s range of interests.

1. Contributions can be in English, German or French.

2. Contributions may include announcements and reviews of exhibitions, seminars, conferences, special courses and lectures, information relating to current projects and any queries concerning the study of archaeological textiles. Bibliographical information on new books and articles is particularly welcome.

3. Accounts of work in progress. This general category includes research/activities related to archaeological textiles from recent excavations or in museums/galleries. Projects may encompass technology and analysis, experimental archaeology, documentation, exhibition, conservation and storage. These contributions can be in the form of notes or longer feature articles.

4. Please send submissions in hard-copy, typed, form (lines not justified). (An accompanying disk in Word would be welcomed.) References should be in the Harvard system (eg Smith 1990), with bibliography at the end.

5. Line drawings and photographs are welcomed, but must be originals of good contrast for reproduction.. Artwork should not be mounted or incorporated into text. Captions, please !

6. The Editorial Board reserves the right to suggest alterations in the wording of manuscripts sent for publication.

Submissions should be addressed to:

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