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# TexSEt

## Textile Technology in Central Tyrrhenian Italy from Late Prehistory to the Etruscan Period

### Background to the *TexSEt* project

The high quality of Etruscan textiles is well known and testified by the elegant Tarquinian paintings and sculptures as well as the decorative pottery created throughout Etruria (in modern Central Italy). They show the wide variety of fabrics and occasionally the richness and attention to detail that went into creating the clothes that were once worn. Less well known are the spinning and weaving tools that were necessary to create these fabrics. Since March 2014, the Archaeological Superintendency of Lazio and Southern Etruria has been involved in a European project called *Textiles in Southern Etruria (TexSEt)*. This project funds my presence as a Marie Curie Fellow, at the Centre for Textile Research (CTR) at the University of Copenhagen, Denmark for two years from March 2014 to February 2016.

The *TexSEt* project has two aims that follow two distinct but connected threads. The first, studying the spinning and weaving tools of the Etruscan-Italic world, is connected to analyses of archaeological textiles; the second involves museological research looking at presenting scientific research in innovative and more accessible ways to inform the wider public of the importance of fabric-making activities in the ancient world. The ongoing research investigates the emergence and development of textile technologies and the use of textile fibres in central-western Italy starting from late prehistory (final Bronze Age – 10<sup>th</sup> century BC) focusing specifically on the Etruscan period (8<sup>th</sup>-4<sup>th</sup> century BC). The study includes preserved archaeological textiles, textile implements and their contextualisation, as well as ancient iconographic and literary sources. The research further integrates experimental archaeology combined with an ethnographic approach and new analytical methods for textile analysis developed in recent years to explore what constituted pre-Etruscan and

Etruscan textile tool kits and the range of qualities that could be produced by these tools, as well as looking for changes in the chronological and/or geographical record. The aim is to enhance our understanding of a long period of evolution in textile production, before the standardisation of technology and production in the Roman Empire.

The final goal is to combine the archaeological study with museological research to develop new approaches in exhibiting textile artefacts and tools in an archaeological museum context. Specifically, this will look at how best to ‘translate’ scientific results in new ways. My goal is to find new ways to exhibit specific objects, such as textile tools, in the National Etruscan Museum of Villa Giulia in Rome and in the National Archaeological Museum of Vulci (in the province of Viterbo, north of Rome).

### Preliminary results

The first step was to create a wide network bringing together museums including the National Etruscan Museum of Villa Giulia and others under the Archaeological Superintendency for Lazio and Southern Etruria, together with the Centre for Textile Research and the National Museum of Denmark in Copenhagen, the La Sapienza University of Rome, the SAXO Institute at University of Copenhagen, and the Land of Legends, the Experimental Centre at Lejre, Denmark. The scientific analysis of the many fragments of fabric is being done by Margarita Gleba from the University of Cambridge, who also includes data from southern Etruria in her ERC project *Production and Consumption: Textile Economy and Urbanisation in Mediterranean Europe 1000–500 BCE (PROCON)* (Gleba *et al.* 2013).

At the beginning of my Marie Curie fellowship in 2014, only very few fragments of textiles from pre-Roman Italy had been identified. However, today, more



than 60 textile fragments have been identified in the museums in southern Etruria (Fig. 1). This has been the project's first significant discovery. Now we are working hard to re-examine data from the dozens of fabrics identified in Cerveteri, Tarquinia, Vulci, Grotte di Castro and Narce using SEM analysis. Samples have also been selected for dye analysis (De Lucia Brolli *et al.* in press; Gleba and Laurito 2014). The renewed interest of the Italian scientific community in textile archaeology has resulted in greater attention being paid to the archaeological textile tools which are essentially the only archaeological traces left of textile production in this area of Italy. However, in order to understand textile production in pre-Roman Italy, other related sources, such as texts, iconography, paleozoology, experimental archaeology, archaeobotany, and ethno-archaeology need to be included too (see contributions to Gleba and Laurito 2015).

As the research is still in progress, I can here only present preliminary observations on the spinning and weaving tools from the necropolis in Cerveteri (with material that almost exclusively originates from the 7<sup>th</sup> century BC), the necropolis at Vulci (9<sup>th</sup>-8<sup>th</sup> century BC) and from those at Narce and Falerii (principally from the 8<sup>th</sup> and 7<sup>th</sup> centuries BC). The most common tools found in Etruscan funerary contexts are the clay spindle whorls that are found in different shapes with incised or impressed decorations. The presence of only the spindle whorls in the tombs (almost exclusively female) suggests that the spindle itself was made of a perishable material such as wood.

Clear differences in spindle whorl size and shape emerge in southern Etruria. Those from Vulci (the oldest), have a wide variety of weights, ranging from the lightest at 5 g, and those exceeding over 30 g. The majority, however, are concentrated between 10 and 20 g. The spindle whorls from Narce, which are of a similar period to those in Vulci, have similar characteristics, although none exceeds 28 g. The spindle whorls originating from Cerveteri, which are chronologically the youngest, are small and light, weighing between 3 and 21 g, with a concentration between 7 and 12 g. Their forms are conical, spherical and bi-conical, with the latter having two variants: type 1 with the maximum diameter in the centre and type 2 which have the maximum diameter in the upper section. Associations can be identified looking at the relationship between the shape of the spindle whorls and their dimensions. In Cerveteri, where the smaller and lighter spindle whorls are found, only conical and type 2 bi-conical spindle whorls are found (those with the maximum diameter in the upper section). There are no type 1 bi-conical spindle whorls. In the other sites, type 1 bi-conical spindle whorls are more

numerous and are heavier. Further, it is important to note that the few spherical-shaped spindle whorls are the only ones made from faience rather than clay.

On rare occasions spindle whorls have survived with spindles. Iconographical comparisons (particularly scenes of weavers from ancient Greece, which are chronologically from the next time period) and use-wear analysis suggest that the spindle whorls were positioned at the bottom of the shaft. Conversely, many spindle whorls do not offer any traces of their actual use. This is one of the most interesting aspects and clearly indicates that during funerary rites both objects that have had a practical function and objects with only a symbolic value were placed in the tombs to accompany the deceased (Lipkin 2012).

I will also look at other tools such as distaffs in order to see if they represent different social and/or cultural factors. In the Etruscan-Italic world, there are two types of distaff: the long distaff with a forked top and the short hand-held distaff (Gleba 2008, 109-122). The long distaff is typical of the Faliscan area. It is a useful and practical object. The spinner can hold/block it under one arm, or they insert it into a belt at their waist, and feed the fibre through using both hands. The short hand held distaff was more widespread throughout southern Etruria.

It is rare to find loom weights inside the tombs. The examples that have been found have a truncated pyramid shape and weigh between 140 and 330 g. It was not common to deposit loom weights before the 6<sup>th</sup> century BC. This is also an aspect that will be examined further.

Spools are commonly found in graves. In many tombs only one was found, but just as often they were found in groups of up to around 40, with rare cases of more



**Fig. 1. Analysing the textile fragments at the National Etruscan Museum of Villa Giulia, Rome. Margarita Gleba and Romina Laurito at work with the Dino-Lite microscope (Photo: Susanna Harris).**

than 100 examples. Chronologically, they are attested from the 10<sup>th</sup> century BC onward (a few examples have also been found in late Bronze Age contexts). They appear rarely after the 6<sup>th</sup> century BC. The spools have a standard cylindrical or hour-glass shape with flattened or rounded mushroom-shaped ends. Their sizes are relatively standardised, and sets of spools have been found with restricted size ranges.

The fact that spools were found in the same tombs and share similar weights suggests they were used as weights for the looms (Nosch and Andersson 2015, in press). The Italic spools – which are light (well below 70 g) – have been connected with tablet weaving to create borders and fringes (Gleba 2008, 140-150 with previous bibliography), but their simple form clearly makes them multifunctional. They could also have been used to wind the thread, much like a modern-day bobbins, and tests have shown that a spool could contain between 20 and 30 m of thread (Fig. 2).

#### Future perspectives

Experimental archaeology can play a central role in helping us to understand these Etruscan objects. I have therefore launched an experimental programme which involves the Lejre Experimental Centre and the technical-functional analysis laboratory headed by Cristina Lemorini (chair of Experimental Archaeology at La Sapienza University of Rome). The aim of this



Fig. 2. A phase of the experimental programme at Land of Legends in Lejre, Denmark. A spinner winds the flax thread around a replica of an Etruscan spool (Photo: Romina Laurito).

team work is to bridge the northern and southern European experimental methodologies. I think that the opportunity to connect different European research groups and work in an interdisciplinary way will fill gaps in understanding of the long operational chain of textile activities and propose a more comprehensive interpretation of textile tools and technology. Certainly the more detailed understanding we have of these ancient everyday objects, the more useful they will be for outreach and exhibition purposes. The objects have an important story to tell, and it is recounting this story which poses the greatest challenge to many museum workers and archaeologists.

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