

The Danish National Research Foundation's
CENTRE for TEXTILE RESEARCH

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Textile Archaeology and Conservation

17th October 2012, 9 AM to 5 PM
India International Centre, Lecture Room No.2

ABSTRACTS

Associate Professor *Ulla Mannering*, Danish research Foundation's Centre for Textile Research, and The National Museum of Denmark.

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Textiles and textile analyses

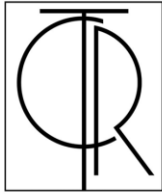
Denmark possesses one of the largest European collections of prehistoric textiles and skin costume from the chronological periods Stone Age (11000-1800 BC), Bronze Age (1800-500 BC), Iron Age (500 BC-AD 800) and Viking Age (AD 800-1050). Most of these textiles and skin objects belong to the National Museum of Denmark. At the Danish National Research Foundation's Centre for Textile Research at the National Museum of Denmark archaeologists and conservators have specialized in documenting and analyzing these precious collections so that they can contribute with knowledge about human life, desires and technology. Through systematic sampling for analysis of fibres and dyes, stable isotopes for date and diet and strontium isotopes for the study of provenance it is possible together with technology and design analyses to provided a whole new understanding of for instance the development of craftsmanship and exchange of knowhow and raw materials in the European prehistory.

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Textile tool analyses

Textile tools often constitute the single most important and plentiful type of evidence for the assessment of the scale of textile production and technology in prehistory. These implements include tools associated with various stages of textile manufacture: preparation of the fibres, spinning of the yarn, weaving and finishing. Even if no textiles are preserved, the results of tool analyses in combination with experimental archaeology and textile crafts knowledge and comparison with different contexts within a certain site and/or when comparing textile production in a specific region provides a better understanding for what has been produced at a certain place during a specific period. With these results the social, economic and cultural impact of the textile production can be discussed. The focus in this lecture will be on the results of textile tool and context analyses undertaken at CTR.



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Strontium isotopic tracing within prehistoric textiles

In the last two decades, measurements of strontium isotopes in archaeological bone tissue / skeletons have shown to be an effective technique for the characterization of human and animal mobility in prehistory. Recently, a new method, also based on the strontium isotopic system, has been developed in order to address questions regarding the provenance of ancient textiles.

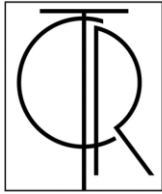
Presently, this method is being applied to Danish Bronze and Iron Age garments, which represent one of the best preserved prehistoric textile collections from European prehistory. This presentation will provide a short introduction to the method, its potential as well as its limitations. Furthermore, a few case studies will be discussed aiming at providing examples of how the application of this novel method can offer new unexpected and important information of the mobility and trade of textiles raw material in prehistory.

Ph.D. fellow *Martin Ciszuk*, Swedish School of Textiles, University of Borås, Sweden

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Reconstructing patterns on Scandinavian archaeological silk textiles.

The Norwegian 8th century AD Viking ship burial at Oseberg was excavated in 1907. Among the rich finds were several small silk fragments. The silks were woven in samite, weft faced compound twill. Originally they had multicolored designs in strong colours. The long burial in wet soil has however given the silks a brownish colour with only faint traces of the design left. A thorough study of technical details in the weaving open for possibilities to decide how many different silks the fragments belong to, to connect the fragments to each other and reconstruct the designs. This might in turn be used as arguments when discussing the origin of the imported silk fabrics.



Curator and keeper *Kirsten Toftegaard*, The Textile and Dress Collection, Designmuseum Danmark
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Museum storage practices in Designmuseum Danmark

This contribution is showing in details – ‘hands-on’ - how flat and three dimensional textiles can be stored. The store rooms at Designmuseum Danmark are not climate regulated because of conditions in the 18th Century building which is Danish cultural heritage. But a lot of preventive means can be taken into consideration when protecting from humidity of the air, from exposure of light and attack from moth and other vermins.

Conservator Dr. *Maj Ringgard*, The National Museum of Denmark

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Museum storage practices in a changing global climate: approaching a CO₂-neutral storage

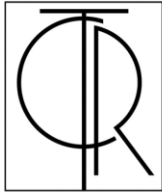
Damages on museum objects can be caused by humidity and temperature changes, such as mold growth by high humidity or cracks and shrinkage when climate is too dry. In order to prevent this most museum storage has a climate control. Usually this is set for the normal museum standard 20°C and 50% RH. Controlling the climate can be very energy-consuming. In order to reduce energy consumption and carbon dioxide emissions used the National Museum of Denmark are planning not to use conventional climate control in the museum's new storage building. Instead the building is kept cool partly by being built underground and using materials with a capacity to retain temperature.

Conservator Dr. *Maj Ringgard*, The National Museum of Denmark

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Experimental – the degradation or preservation of textiles and dyes in waterlogged soil

Textiles are vulnerable and are seldom preserved in an archaeological context but special surroundings like waterlogged anoxic conditions can keep textiles for millenniums. In order to obtain an understanding of the mechanisms of decomposition and increase our knowledge on how textiles and dyes are affected, a number of experiments were conducted to test the decomposition of textiles under waterlogged conditions. Dyed textiles were subjected to decomposition in waterlogged soil under controlled conditions, and these test textile samples were unearthed at regular intervals and investigated. Results of the colour analyses demonstrate that certain dyestuffs act to preserve the fibres; and some dyes are capable of migrating to adjacent textiles. These results can prove vital when interpreting both the dyestuff analyses of and the preservation of archaeological textiles.



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Textiles, Trade and Taste: A research project on the global circulation of colour

Portugal's museums, churches and private institutions house very fine and diverse collections of textiles owing to the country's rich maritime history and extensive overseas contacts, from India and Japan to Africa and Brazil. Research has ranged from collating inventories to conducting material, stylistic, iconographic and archival studies, with the aim of placing these objects in their historical, artistic, technological and socio-cultural contexts. A group of conservation scientists is currently developing work on the analysis and characterization of dyes (using HPLC-DAD, LC-MS, PCA, etc.) in Indian, Persian, Chinese and European textiles, which is providing useful data for identifying the geographical origins of the raw materials and finished textiles. As a result, we are now in a position to begin tracing the global circulation of these objects in the context of the Portuguese and European Overseas Expansion, from the 16th century onwards. Chemical analysis has also provided a new impetus for studies in textile conservation and the development of improved treatments, thus enhancing our capacity to preserve this rich heritage for future generations.

Asst. Curator *Subhra Devi*, Museum and Archive, Dept. of Cultural Studies, Tezpur University

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Textile Dyeing in Assam: Need of a holistic approach for preservation

Human beings from remote past tried to colour their lives and surroundings, including body parts, textiles, houses and the mediums for communication of thoughts, with available materials at hand. Assam, in the north eastern corner of India, is not only rich in natural heritage but rich in cultural heritage too. With plenty of natural resources, Assam has an illustrious history of using different colours, most of which are dyes from the roots, barks, flowers and leaves of plants, except a few of animal and mineral origins.

The art of dyeing, like other elements of culture, depends on the available raw materials in the region. Changing ecological character of the region also influence this art apart from other much talked about socio-economic factors. Thus this paper tries to highlight various interlinking factors for the preservation of this art.