



**REPORT OF RESEARCH ACTIVITIES AT  
THE DANISH NATIONAL RESEARCH FOUNDATION'S  
CENTRE FOR TEXTILE RESEARCH  
2006**

**Period:** 1<sup>st</sup> January 2006 –31<sup>st</sup> December 2006

**Introduction**

In October 2004, The Danish National Research Foundation awarded 18 million Danish kroner to Marie-Louise Nosch for the establishment of The Danish National Research Foundation's Centre for Textile Research at University of Copenhagen. The centre carries out basic research from 2005 to 2010.

In 2006, CTR has focused on several different areas:

- Both CTR research programs – *Danish Textiles and Costume* (DTC) and *Tools and Textiles – Texts and Contexts* (TTTC) have followed the outlined research plans. The research programs have progressed well, and nine seminars have boosted the research. Both research programs have received contributions from scholars from Denmark and Europe. Some have spent time at CTR as post doctoral fellows, but the research programs also cooperate with 20-30 scholars outside CTR. These scholars have come to CTR for the seminars but contributed from outside. The management of the two research programs has, to a large degree, consisted of organising and structuring these widespread collaborations.
- 2006 will be remembered as the Ph.D. year of CTR: Ulla Mannering defended her Ph.D. project on Late Iron Age costume in Scandinavia, four new CTR Ph.D. students started their research and the fifth was elected. The Ph.D. students display the large variety of topics in textile research in their research projects.
- CTR visiting professor Lise Bender Jørgensen from NTNU Trondheim wrote during her 12 months' stay at CTR the manuscript of the monograph on textiles from the Roman quarry Mons Claudianus in Egypt. She has also participated in the teaching activities of CTR and has been a valuable partner and adviser for the DTC program as well as for the CTR Ph.D. students.
- In spring 2006, CTR staff conducted a series of lectures at University of Copenhagen, Department of Prehistoric Archaeology, and at Kolding School of Designs. The aim of the latter was to demonstrate how different scholars, with different academic backgrounds, approach the topic of ancient clothing. The mission was to contribute to the development of academic courses in educations in design in Denmark. The lectures were subsequently collected in the anthology *Dressing the Past* (forthcoming, Oxbow Books).
- All CTR scholars have published or submitted papers in textile research. In 2006, 7 research reports, 3 articles in scientific journals and 6 contributions to monographs were published; The submitted works are as follows: 4 monographs, 5 articles in scientific journals, and 10 contributions to conference proceedings/Festschrift (see the full list in appendix I).

**The CTR highlights in 2006:**

*New C14 dates provide a new frame of understanding Danish Iron Age:*

In November 2006 the new C14 dating yielded surprising results: It can now be ascertained that the costumes from Huldremose 1 and Huldremose 2 are separate deposits: there are more than 200 years separating them. Thus they cannot belong to the same woman. The textiles from Tvis and Vong are not

from the Prehistoric Age but are now dated to specific historical periods. The Ømark textile dated 390-200 BC proves to be the oldest painted textile known in Europe.

#### *New results from archaeological textile from Crete, Late Bronze Age*

The tiny band excavated at Khania, Crete, was analysed in depth and yielded surprising results: it is constructed with an unidentified techniques, with warp threads of linen, weft threads of bundles of goat hair, and an additional thread of nettle. It is the first time that nettle is identified in prehistoric Greece.

#### *A new research projects, Textiles for War*

Dr. Susan Möller-Wiering received substantial funding from FKK for the research on textiles from Iron Age weapon deposits, and this independent research projects will be carried out in 2007 and 2008. The project will converse with the DTC research program and this double investigation of textiles deposited with bog bodies and textiles deposited with weapons will together shed new light on Iron Age textiles, aggression and cults.

#### *New understanding of Prehistoric spinning tools*

The systematic experimental testing of reconstructed Bronze Age textile tools demonstrated that spindle whorls weighing less than 10 gr are capable of producing usable thread for textile production. This has been a widely discussed topic over the years, and the issue has never been tested systematically and earlier test were not documented or controlled. The new results have wide implications for the definition of spinning tools in the archaeological record. The series of experiments with weaving tools tested functional parameters for loom weights and provided a new understanding of the relation between loom weights and the woven fabrics.

## **1. CTR staff**

The core scientific staff group in 2006 consisted of Director, Dr. Marie-Louise B. Nosch, Dr. Eva Andersson, Dr. Ulla Mannering, Dr. Margarita Gleba, Dr. Susan Möller-Wiering, CTR visiting professor Lise Bender Jørgensen.

Please see Chart of Staff.

In 2006, CTR welcomed many new international scholars: some came for shorter research visits; others came for longer stays, or even moved to Denmark. It has been a pleasant challenge to welcome and incorporate all these colleagues. Help and advice with many of the administrative issues such as health care, immigration authorities and tax has taken up much time for the director and the academic officer. Social activities were a necessary strategy to integrate the new colleagues.

In April 2006, the whole CTR staff went to Båstad in Sweden for a staff workshop in which the core staff presented the research programs, and the 4 new Ph.D. students presented their research projects. The aim was to share knowledge between the programs and Ph.D. projects.

The staff group Mannering, Andersson and Borrell followed a coaching program organised by the University of Copenhagen in order to strengthen their management profiles.

Generally, 2006 was a very challenging year for the staff. As the number of people at the centre increased, the administration and centre structure had to be constantly updated to follow and maintain its program. The centre had to buy expertise in accounting and archiving from the SAXO institute. The two research programs expanded quickly, thus demanding more and more management. Margarita Gleba was thus promoted program manager. Marie-Louise Nosch's double role as director and research manager in the TTTC research program has been very demanding and CTR is now actively seeking to attract more scientific staff to the program (International Talent Recruitment Program).

## **2. Research programs**

### **2.1 Textile and Costume from Bronze and Early Iron Age in Danish Collections (DTC)**

In 2006, the DTC research program has been working with textile and skin costumes from Iron Age bogs and weapon deposits in Denmark and Northern Germany.

The staff of the program consists of program managers Ulla Mannering and Margarita Gleba from CTR, post doctoral fellow Susan Möller-Wiering, and conservators Irene Skals, Annette Hjelm Petersen and Anne Lisbeth Schmidt from the Department of Conservation, The National Museum of Denmark. A part

from this group, various scholars from Danish and foreign institutions have collaborated in the research program (see appendix II for collaborators, consultants and collaborating institutions)

The DTC program has focused on registration and analyses. In the program, we have explored new methods, and through employing scholars with many different competences we have investigated the finds from many different angles. It can be concluded from this working method that it has a great potential to set new standards for textile research. While it has primarily been a year of inquiry, preliminary results on C14 and dye analyses have shown both unforeseen and unexpected results that will give the bog finds new perspectives within our prehistory.

Ulla Mannering and Margarita Gleba travelled in 2006 around Denmark to several local museums - Års, Randers, Skive, Silkeborg, Viborg, Ålborg, Vejle, Museet på Koldinghus - to examine the archaeological textiles and skins in their collections.

***Within the DTC research program the following analyses have been performed:***

- 23 samples of textiles and skins from bogs have been sent to be C14 dated by Prof. Göran Possnert, Tandem Laboratory in Uppsala, Uppsala University, Sweden. Our C14 consultant is Dr. Jan Heinemeier, Institute for Physics and Astronomy, University of Århus
- 138 textile samples have been sent to be analyzed for dyes. Dye analyses are carried out by Dr. Jan Wouters and Dr. Ina Vanden Berghe, Royal Institute for the Study and Conservation of Belgium's Artistic Heritage, Belgium
- 5 DNA analyses, Dr. Tom Gilbert, Niels Bohr Institute, University of Copenhagen.
- 20 textile samples have been analyzed for fiber quality.
- A pilot project on strontium isotope analyses was carried out by Prof. Gisela Grupe and Dr. Matthew Mike Schweissing, Staatssammlung für Anthropologie und Paläoanatomie, Ludwig Maximilian Universität, Munich, in collaboration with Prof. Claus von Carnap-Bornheim, Archäologischen Landesmuseums Stiftung Schleswig-Holsteinische Landesmuseen Schloß Gottorf
- A pilot project on lead isotopes in archaeological textiles was designed in collaboration with Prof. Robert Frei, Geological Institute, University of Copenhagen
- Analyses of the textiles from the weapon deposits from Illerup Ådal and Thorsbjerg were carried out by Dr. Susan Möller-Wiering. Preliminary analyses of Nydam by Dr. Ulla Mannering.
- In addition, analyses of human remains from the bogs have been carried out by Prof. Pia Bennike and Dr. Niels Lynnerup, Panum Institute.

***The DTC research program has been presented at the following conferences***

- 12<sup>th</sup> Annual Meeting, European Association of Archaeologists, Krakow (19-24.09)
- University of Pennsylvania, Philadelphia, USA, (18.10)
- *Aktuelle Forschungen zu Kriegsbeuteopfern und Fürstengräbern im Barbaricum* at Schloss Gottorf, Germany (15-17.06)
- ICOM Costume Committee meeting in Copenhagen (09.10)
- Yearly Archaeological Meeting in Fuglsø (16.11)
- Statens Historiska Museet, Stockholm (02.12)

***The textiles from weapon deposits***

As the preliminary analyses of material from the weapon deposits have resulted in many more textiles than initially anticipated, it was decided to separate the analyses and publication of the textiles from the weapon deposits from the corpus of skin and textiles from the Danish bogs. With additional funding from the Carlsberg Foundation, and now also from FKK, this section has now evolved into a separate research project conducted by Dr. Susan Möller-Wiering. A separate research plan has been outlined and the results from this research will be published in a separate volume.

***Sr isotopes***

Likewise, the first pilot project with the strontium isotope analyses have now resulted in an independent Ph.D.-scholarship funded by the Saxo Institute for geologist Karin Frei. The textile and earth samples from the Danish bogs from the Early Iron Age will be the main test object.

***Conclusion***

Apart from the rapid expansion of the research program and the extraordinary accumulation of research results, which resulted in the creation of another independent research project, there has been no major change to the research plan of the first stage in 2006. Though we estimate that the starting date of the second stage will be slightly delayed in 2007, we have already analysed the Bronze Age finds from Borum Eshøj and Skrydstrup, as these were going on loan to various local museums while rebuilding the National Museum.

## **2.2 Tools and Textiles, Texts and Contexts (TTTC)**

The main activities in 2006 were:

- The second and third testing of spinning and weaving with reconstructed tools
- Formalisation of agreements with international collaborators
- Entering and processing of data in the Textile Tools Database
- Organisation of two research seminars for the collaborators: *1<sup>st</sup> Tools and Textiles – Texts and Contexts workshop, organised by The Danish National Research Foundation's Centre for Textile Research, hosted at the Danish Institute at Athens* (19-21.01), and *2<sup>nd</sup> Tools and Textiles – Texts and Contexts workshop held at The Danish National Research Foundation's Center for Textile Research, University of Copenhagen* (13-16.06)
- Presentations of the TTTC research program and the first results at international conferences

The staff of the program consists of: program managers Eva Andersson and Marie-Louise Nosch; textile technician Linda Mårtensson, assisted by Anne Batzer; and four international post doctoral fellows on short term stays: Marta Guzowska (1 month); Brendan Burke (1 month); Lorenz Rahmstorf (3 months); Susan Möller-Wiering (3 months).

### ***Experimental Archaeology***

The second and third stages of experimental testing of spinning and weaving tools resulted in new knowledge. The spinning tests confirmed earlier results: that the output quantity of thread was dependent upon the tools' weight. A spinning test made with a 4 g spindle whorl ends the discussion of the possible spinning function of small whorls weighing less than 10 g. Our tests clearly confirmed that a whorl cannot be excluded as a spindle whorl simply due to its size and minor weight. The second test explored the functional parameters of loom weights i.e. the parameters affecting what fabric can be produced with the tools. These results allow us – and our collaborators – to interpret textile tools and textile production in a more differentiated way.

Textile technician Linda Mårtensson carried out the experimental tests, in collaboration with Eva Andersson and Anne Batzer. Mårtensson travelled twice to Crete to interview shepherds and craftswoman, collect wool for the experimental tests, and participate in wool festival (21-22.01, 26-30.05)

One important aim in the TTTC research program is to explore experimental archaeology as a method, including its potentials and risks. To ensure scientific control over the experiments, the experiments have been conducted according to the developed TTTC guidelines for utilizing experimental archaeology. The guidelines were in 2006 presented at two international conferences and have attracted the attention of numerous scholars. These types of guidelines are absent in previous tests in textile experimental archaeology, but have now created new standards. The TTTC guidelines were presented by Mårtensson and Andersson at the *12<sup>th</sup> Annual Meeting, European Association of Archaeologists, Krakow*. As such the guidelines now fill a gap between experimental archaeology and textile archaeology. Thus the goal to develop experimental textile archaeology has been reached.

### ***Khania, a case study***

In 2006 we were awarded a grant of USD 8000 from The Institute for Aegean Prehistory. This allowed us to develop an additional project to the main program: a detailed study of Khania in Crete, in order to gain more extensive knowledge of the textile production process at this specific site since both textile tools and textile remains have been preserved in one archaeological context (See CTR yearly report 2005).

Dr. Susan Möller-Wiering, in a preliminary analysis of the Khania textiles in 2005, demonstrated that several of the fragments belonged to a small, narrow band. According to Dr. Susan Möller-Wiering, the warp was made of plant fibre and the weft of hair. In 2006, some fibres were sent for analysis to Dr. Christophe Moulherat and Dr. Youlie Spantidaki at the Hellenic Centre for Research and Conservation of Archaeological Textiles. To our great surprise, the warp turned out to be of flax fibres, the weft of goat hair and a third tread were made of nettle. This is a unique find, nothing like it has, to our knowledge,

ever been found. This, of course, raises more questions than answers. Both research reports are now published on our webpage.

In July 2006, Eva Andersson, together with our collaborator Dr. Maria Bruun Lundgren from Göteborg University, worked in the storerooms of the museum in Khania, Crete and recorded most of the textile tools found in the Greek-Swedish Excavations at the Agia Aikaterini Square Kastelli, Khania. In September 2006, Eva Andersson and Marie-Louise Nosch went back and recorded the last finds. This recording gave us a possibility to work with and test the database, designed for this program. The preliminary results from this analysis from Khania have given some very interesting results indicating a change in the textile production during Late Bronze Age Khania. These results also demonstrate the potential of the research program: by conducting a tool study based on the tool function provides valuable and specific information about textile production.

### ***Collaborations***

The research program has expanded in both time and space. In 2005 we had 13 collaborators; at the end of 2006 we are collaborating with archaeologists working with 30 different sites, that are dated from the 4<sup>th</sup> to 2<sup>nd</sup> millennium and are located in the eastern Mediterranean (see appendix III)

This new impact will secure one of the research programs' aims, *to elucidate the economic and cultural impact of textiles and the textile manufactures on society* but in a much wider context as planned. We will study the development of the intensive, industry-like production of textiles on the basis of a division of labour that took place during late Bronze Age. We now have the opportunity to study how textile technology developed in certain areas, and if the organization changed during the Early and Middle Bronze Age. Finally, we will be able to compare the development of textile production in a considerable larger area.

### ***The TTTC research program has in been presented at the following conferences***

- *12<sup>th</sup> Annual Meeting, European Association of Archaeologists, Krakow* (19-24.09)
- *4<sup>th</sup> International EXAR-conference* 12-15/10 Albersdorf, Germany
- *10<sup>th</sup> International Cretological Congress, Khania*(01-08.10)
- *Mycenaean Seminar, Institute of Classical Studies, University of London School of Advanced Studies* (13.12)

### **2.3 The External Experts.**

During the year, Prof. Lise Bender Jørgensen and Prof. Carole Gillis have served as External Experts (see report 2005). They have several times participated in the research team's meetings and read all internal reports. Prof. Lise Bender Jørgensen and Prof. Carole Gillis conducted a questionnaire for at CTR staff and collaborators in order to evaluate the internal communication in the research programs as well as the understanding of common goals etc. Their recommendations will be considered in the ongoing process of structuring CTR. Their evaluation is found in appendix IV.

## **3. Scientific activities organized by CTR**

### **3.1 Conferences, workshops at CTR:**

- *1<sup>st</sup> Tools and Textiles – Texts and Contexts Workshop, organised by The Danish National Research Foundation's Centre for Textile Research, hosted at the Danish Institute at Athens* (19-21.01)
- *1<sup>st</sup> Fibre Workshop* (22-23.05)
- *1<sup>st</sup> DTC meeting for participants* (24.05)
- *2<sup>nd</sup> Tools and Textiles – Texts and Contexts Workshop held at The Danish National Research Foundation's Center for Textile Research, University of Copenhagen* (13-16.06)
- *Medieval Broadcloth – Production, trade, consumption and use* (26-28.08)
- *Skin and leather Workshop in Brede* (25.09)
- *2<sup>nd</sup> DTC meeting for participants* (26.09)
- *2<sup>nd</sup> Fiber Seminar* (20-21.10)
- *3<sup>rd</sup> DTC participants meeting* (22.11)
- *Seminar on Isotopic tracing* (28.11)

### **3.2 Public lectures at CTR:**

CTR has in 2006 hosted 14 public lectures (see the list in appendix V)

### 3.3 Lectures given by CTR staff in 2006

CTR staff has given 21 lectures at international conferences in Canada, USA, Italy, England, Germany, Poland, Sweden, Greece:

- *Annual Archaeological Institute of America Meeting*, Montréal, Canada (07.01)
- *XII Colloquio Internazionale di Micenologia*, “La Sapienza”, Roma, 19-23 febbraio (21.02)
- *EPOS. Reconsidering Greek Epic and Aegean Bronze Age Archaeology. 11th International Aegean Conference organized by the University of Liège, UCLA and the Getty Villa, Los Angeles* (20.04)
- *Conference Gendered Identities in the First Millennium BC Italy*, London (20.06)
- *Early Textiles Study Group, 11th biennial Weekend Conference*, University of Manchester, 8-10. Sept. 2006.
- *European Association of Archaeologists, 12<sup>th</sup> Annual Meeting*, Kracow, Poland, 19-24. Sept. 2006.
- *4<sup>th</sup> international EXAR-Conference 12-15/10 Albersdorf*, Germany
- *Mycenaean Seminar Institute of Classical Studies, University of London School of Advanced Studies*, (13.12)
- *ICOM Costume Committee Meeting*, Copenhagen (09.10)
- *Aktuelle Forschungen zu Kriegsbeuteopfern und Fürstengräbern im Barbaricum*, Archäologisches Landesmuseum, Schleswig, Germany, June 15-17

The entire list of contributions of CTR staff lectures is given in appendix V

## 4 Research training and Ph.D. grants

### 4.1 Ph.D. grants

1. The Ph.D. grant *Textiles and Experimental Archaeology*, co-financed by CTR and Lund University, was granted to Ulla Isabel Zagal-Mach. The Ph.D. research project is named: *Sejlet på horisonten – et håndværksorienteret studie af den integrationsproces, der gjorde den nordiske båd sejlførende*. Ulla Isabel Zagal-Mach started her Ph.D. research on 1<sup>st</sup> February 2006.

2. The Ph.D. grant *Textiles and Conservation, with focus on textiles from the collections in the Danish National Museum*, co-financed by CTR and the Danish National Museum, was granted to Maj Ringgaard. The Ph.D. research project is named: *Nedbrydningsfænomener i tekstiler fra omkring 1700 fundet i københavnske byudgravninger*. Maj Ringgaard started her Ph.D. research on 1<sup>st</sup> August 2006.

3. The Ph.D. grant *Textiles and Archaeology*, co-financed by CTR, University of Århus and the Danish Ph.D. School in Archaeology was granted to Judit Pásztoakai-Szeoke. The Ph.D. research project is named: *The archaeological evidence of textile production in Roman Pannonia*. Judit Pásztoakai-Szeoke started her Ph.D. research on 1<sup>st</sup> March 2006.

4. The Ph.D. grant *Design as a competitive parameter in the development of the Danish textile industry*, co-financed by CTR, CBS/Centre for Business History, Centre for Design Research/School of Design at Kolding, and the private foundation Fonden Frigges Legat, was granted to Birgit Lyngbye Pedersen. The Ph.D. research project is named: *Design som konkurrenceparameter i tekstilindustriens udvikling i Danmark efter 2. Verdenskrig*. Birgit Lyngbye Pedersen started her Ph.D. research on August 1<sup>st</sup> 2006.

5. The Ph.D. grant in research in textiles, financed by the SAXO Institute, University of Copenhagen was announced in June 2006. There were 6 candidates for the grant. The candidates were all female, and from the disciplines archaeology (2), domestic science (1), geology (1), conservation (1), and cultural studies (1). They were all qualified for the grant. Two candidates were Danish; Two candidates were Swedish; and two were of double nationality: Danish-American and Danish-Argentinean.

The Ph.D. evaluation committee under the Saxo Institute, including Marie-Louise Nosch, chose Ph.D. candidate Karin Margarita Frei, geologist trained at University of Copenhagen, born 1973, Danish-Argentinean citizenship. The research project is named: *(Isotope)- Geochemical studies of textiles and tool: tracing their sources*. Karin Margarita Frei will start her Ph.D. research on May 1<sup>st</sup> 2007.

### 4.2 Ph.D. courses at CTR

The CTR Ph.D. students presented their projects at a workshop on May 16<sup>th</sup>, with the participation of Dr. Eva Andersson and two German professors, Beate Wagner Hasel, Universität Hannover and Ellen Harlizius-Kluck, Deutsches Museum.

## 5. Teaching, supervision, evaluation

## 5.1 Teaching

In Spring 2006, CTR staff conducted a 25 hour course Designskolen in Kolding. The courses were held in five blocks:

(20.02) Eva Andersson. & Ulla Mannering: *Scandinavian Textile Production during the Late Iron - Viking Age*

(27.02) Lise Bender Jørgensen, *Fra Faraos klædeskab -Faraoniske tekstiler*, and Margarita Gleba, *Scythian costume: sources, problems, reconstructions*

(06.03) Marie Louise Nosch, *Aegean and Greek Bronze Age Dress*, curator Mette Korsholm, , Davids Samling, *Græske og romerske dragter*, Annette Borrell, *Kostume og cinema*

(13.03) archaeologist Kathrine Vestergaard, *Middelalderdragt - kritisk undersøgelse af kildemateriale i forhold til rekonstruktion*

(20.03) Curator Tove Mathiasen, Den Gamle By Århus and Ph.D. student Helle Leilund, The National Museum of Denmark, *Danske dragter i nyere tid*.

In autumn, CTR gave a series of 20 lectures for graduate students in Prehistoric archaeology at the Saxo Institute, University of Copenhagen. The lecture series was entitled *Den tekstile forhistorie*. The course coordinator was CTR Ph.D. student Ulla Isabel Zagal-Mach. Approximately 12 students followed the course. The courses were given in six blocks and every block consisted of lectures as well as workshops. The following courses were given:

(23.10) *Introduktion, Tekstilhåndværkets epistemologi* (Lise Bender Jørgensen)

(24.10) *Redskabsteknologi og eksperimentel arkæologi* (Eva Andersson, Linda Mårtensson)

(25.10) *Scandinavian Iron Age Design* (Ulla Mannering)

(30.10) *Reconstruction of Costume. The Scythians* (Margarita Gleba), *Costume and Films* (Annette Borrell)

(31.10) *Skriftlige kilder – produktionsorganisation* (Marie-Louise Nosch, Agnete Wisti Lassen)

(01.11) *Sejl og transport* (Ulla Isabel Zagal-Mach, Susan Möller-Wiering)

Finally, CTR staff has lectured independently: Linda Mårtensson gave a 3 day course in textile techniques and history, University of Lund (10.04, 18.05, 01.06), and one week course teaching at Bäckedals folkhögskola Sweden (June). Ulla Isabel Zagal-Mach lectured on Viking ships, Lund University (26.10); Marie-Louise Nosch gave a lecture for master students in archaeology, SAXO institute, on Linear B inscriptions (26.04); Ulla Mannering gave a lecture on Prehistoric textiles, School of Conservation (14.11), and on Prehistoric Costume at Danish University Extension (11.10).

## 5.2 Supervision, evaluation, academic, administrative and editorial tasks

Eva Andersson is the secondary advisor for two the CTR Ph.D. students, Ulla Isabel Zagal-Mach and Judit Pasztokai-Szeőke. She also wrote a peer review of a article on the flax/linen industry in Medieval Russia, *Medieval Clothing and Textiles UK*, with Margarita Gleba. Finally, she is board member of "Centrum för Danmarks studier", Lund University

Lise Bender Jørgensen gave an evaluation of Ph.D. theses: Antoinette Rast-Eicher: *Textilien, Leder, Fell aus eisenzeitlichen Gräbern aus der Schweiz und die Entwicklung der Wolle von der Hallstattzeit bis zur römischen Periode*, Universität Bern, and Orit Shamir: *Textiles in the land of Israel from the Roman Period till the Early Islamic Period in the Light of Archaeological Finds*, Hebrew University of Jerusalem.

Marie-Louise Nosch gave an evaluation of the Ph.D. thesis Vibeke Rüsberg, *Design og production af trykte tekstiler – fra analoge til digitale processer*, Kolding Designskole. Public defence was held at Århus Arkitektsskole (11.05). She also evaluated six Ph.D. applications for a Ph.D. scholarship on textile research (financed by SAXO Institute). She is member of the SAXO research council, and member of the research council of the Faculty of the Humanities. She is the editor of the CTR publication series *Ancient Textiles Series*. In 2006, she has been co-editing three monographs: *Ancient textiles. Productions, Craft and Society*. Ancient Textiles Series 1, *First-Aid for the Excavation of Archaeological Textiles*. Ancient Textiles Series 2, and *Dressing the Past*. Ancient Textiles Series 3.

Intern Cherine Munkholt coordinated the lecture series at Kolding and created evaluation questions and a final report on the course. She also set up CTR's library. She was responsible for the editing and proofreading of articles, abstracts, list of contributors, etc. for *Dressing the Past*.

Ph.D. student Ulla Isabel Zagal-Mach coordinated the lecture series at SAXO and created evaluation questions and a final report on the course. She also organises the CTR guest lectures (with Eva Andersson), and she is member of the Ph.D. board, Lund University.

## 6. External funding

### 6.1 Direct funding for CTR activities:

- 50.000 DKK from Elisabeth Munksgaards Fond for Sr isotope analyses in the DTC program.

- Institute of Aegean Prehistory gave \$ 8000,- to CTR for analyses of archaeological textile band from Crete
  - Susan Möller-Wiering received 690.000 DKK for a post doctoral fellowship on textiles in Iron Age weapon deposits from FKK (Feb 07-July 08).
  - Remuneration for teaching at SAXO Institute: 11.631 DKK
  - Remuneration from the National Museum for analyses of Illerup Ådal, 180.000,-DKK
- Total: 976.421,- DKK**

### 6.2 Funding for individual textile researchers' projects at CTR:

- Marie-Louise Nosch: 25.000,-DKK from FKK for her book *The Knossos Od Series*
  - Margarita Gleba: £ 4.000,- from Cotton Foundation for her book *Textile production in pre-Roman Italy*
  - Linda Mårtensson: 20.000,- DKK from Lejre Experimental Centre, for spinning experiments
  - Kathrine Vestergaard: 5.000,- SEK from Letterstedtske Fond, Sweden for excursion
- Total: 92.612,-DKK**

### 6.3 Other contributions to CTR:

- Library from the School of Domestic Science, Kerteminde. CTR received the textile library from Kerteminde Seminarium. The Royal Library kindly accepted to catalogue the library, which will be accessible via the Royal Library server.
- The National Bank of Denmark provided 6 months free housing for CTR visiting professor Carmen Alfaro Giner in 2007.
- The SAXO institute sponsored the hotel costs for Prof. John Munroe's stay in Copenhagen for the international seminar *Medieval broadcloth – Production, trade, consumption and use* on the 26<sup>th</sup>–28<sup>th</sup> of August 2006.
- The Department of Conservation, The National Museum of Denmark, contributed 1,000 hours of work by conservators to the DTC program in 2006.
- Valuable contribution from intern Cherine Munkholt, MA student in history, University of Copenhagen, who arranged a series of lectures and made editorial work (5 months). Cherine Munkholt wrote a report on the stay at CTR (appendix VI). Intern Ylva Cederholm, University of Uppsala designed during her internship documentation for the joint research at CTR and Lejre Archaeological Centre (6 weeks), and research assistant trainee Karin Frei conducted a pilot study on modern wool fibres (2 months).

### 6.4 Unsuccessful applications for funding

FKK application for dye analyses, C14 analyses and isotope analyses, 339.600 DKK.

## 7. Collaborations

### 7.1 National collaborations

- With Lejre Archaeological Centre, several collaborations have been carried out. CTR and Lejre Archaeological Centre were co-hosts for an intern from Uppsala University, Ylva Cederholm. Her internship took place in both institutions.
- Lejre Archaeological Centre has chosen to focus their research in 2007 on fibre and textiles in collaboration with CTR. Lejre Archaeological Centre has given research grants to CTR textile technician Linda Mårtensson.
- The Department of Conservation, The National Museum of Denmark, decided to contribute with 1,000 hours of work to the CTR DTC program in 2006 and also in 2007.
- The Department of Conservation, The National Museum of Denmark, and CTR made a joint application to FKK for funding of dye analyses of archaeological textiles
- The National Museum of Denmark/ Director Carsten U. Larsen and Marie-Louise Nosch plan a joint web site displaying the archaeological textiles in the Danish collections, and agreed to file a joint application for funding from the Oak Foundation.
- The Royal Defence Academy, General Major Carsten Møller, Ph.D. student Kjeld Galster from the Saxo Institute and Marie-Louise Nosch, CTR, agreed upon a joint conference regarding Textiles and Military. Negotiations are currently underway with NATO Science for funding.

## 7.2 International collaborations

- Collaboration with Staatssammlung für Anthropologie und Paläoanatomie, München and Director Claus von Carnap, Landesmuseum Schloss Gottorf, and Prof. Gisela Grupe, Direktorin der Staatssammlung für Anthropologie on strontium isotope analyses of archaeological textiles. Several meetings were held during the year and a pilot study of 15 textiles was implemented.
- Negotiation and contracts with Dr. Michael Tellenbach, Reiss Engelhorn Museen, Mannheim. CTR is a co-organiser in an international exhibition and research project. There are eight co-organisers from six countries. Yearly budget for the entire project is approx. 1 million Euro. It is a multi-annual co-operation project 2007-2012 under the *Education, Audiovisual & Culture Executive Agency*. The call is: EACEA 09/2006.
- CTR co-signs an application for funding from the Leverhulme Trust, to strengthen the European Patterns and Culture Network. If funded, the start date for the Network is September 2007. The head applicant is Professor Michael A. Hann, Chair of Design Theory, and Director of the University of Leeds International Textiles Archive.
- Margarita Gleba went to the National Museum of Lithuania in Vilnius, meeting with Lithuanian colleagues about the organization of an international conference on historical costumes in Vilnius in 2007 or 2008 (12.04).
- Ulla Mannering negotiated the collaboration between CTR and Statens Historiske Museum with curator Mari-Louise Franzén (26-27.03, 31.10).

## 8 Outreach activities

CTR has hosted receptions and gatherings for various groups of scholars. This was an opportunity to present the centre and to reach out to other academic communities in an informal way.

Receptions were held at CTR for Dansk Historikerdag, ca. 300 participants (25.08); for the international conference Hellenistic Economies, ca. 40 participants (08.09); and for the ICOM Costume Committee, international meeting in Copenhagen, ca. 100 participants (10.10).

Ulla Mannering and Marie-Louise Nosch presented CTR at *Kvindelige Akademikeres forening*, Copenhagen (26.01).

In May, CTR contributed to public knowledge through the *Forskningsens Døgn* (05.05).

CTR has welcomed a large number of visitors – students, colleagues, designers, from Denmark and abroad, who came during the year to visit CTR.

CTR has been mentioned in several articles in Danish newspapers: *Universitetsavisen*, *Politiken* and *Weekendavisen*.

## CONCLUSION

In 2006, CTR has constructed and consolidated a research structure, administrative routines, intranet and agreements with other institutions. Much time was spent upon working contracts and immigration authorities for foreign scholars. The year was very demanding for CTR staff, as was also observed by the External Experts as well as by intern Cherine Munkholt (appendix IV and VI).

The construction of the CTR web site was necessary to establish a platform of communication with collaborators, other textile scholars, and others interested parties. In 2006, the website has served as a useful tool, for example to disseminate information about seminars. The web allowed us to efficiently spread our results and research reports in pre-published form not only to our collaborators but also to an interested public.

CTR benefited greatly from the CTR visiting professor Lise Bender Jørgensen who spent all 2006 at CTR and was a valuable partner in the DTC research program.

The two research programs, DTC and TTTC, are progressing and expanding. Both programs have followed the research plan outlined in the contract with the Danish National Research Foundation.

During the year, additional funding has been obtained for unforeseen and new research activities. Thus CTR has maintained its budget.

When CTR opened in August 2005, there was a perceived reluctance from The Faculty of the Humanities at the University of Copenhagen and the National Museum of Denmark. We took this situation as a major challenge for CTR in 2006. Today, the situation has improved remarkably, due to a combination of diplomatic lobbyism and substantial scientific results demonstrating the potentials of basic research in textile history and archaeology. Textile research is now appointed to be the *developing core area of research* at the SAXO Institute and at the National Museum of Denmark. The Department of Conservation at the National Museum of Denmark now co-finances substantially to the DTC program. CTR has become a close partner in various initiatives and research strategies in both institutions.

2006 was the year of initiating and consolidating textile research, reaching out to other scientific communities, launching interdisciplinary and innovative projects, and testing new methods. We now are reaping the benefits of our efforts: enthusiasm and positive feed back, invitations to join other projects, and invitations for scientific gatherings. Several areas have now impacted upon the research community, such as the TTTC guidelines for experimental testing, the pilot project on strontium isotopes in organic fibres, and the radical changes in the perceived notion of Iron Age costume through the new analyses of design and dyes.

CTR is considered as a professional centre of excellence; the interdisciplinary and international team work structure of the research programs has been noticed, respected and appreciated by other scholars.

Ved underskriften bekræftes det, at beretning og regnskab med tilhørende noter og oversigter indeholder alle oplysninger, som vedrører årets aktiviteter i Centre for Textile Research under Danmarks Grundforskningsfond.

Marie-Louise Nosch

København 30. marts 2006

## APPENDIXES

- Appendix I CTR research reports, published and submitted papers
- Appendix II Research program DTC collaborators and collaborating institutions
- Appendix III Research program TTTC collaborators and collaborating institutions
- Appendix IV Evaluation of research programs by external experts
- Appendix V Public lectures at CTR, and lectures given by CTR scholars
- Appendix VI Report on CTR, by Cherine Munkholt