

## AEGEAN BRONZE AGE TEXTILE PRODUCTION TECHNIQUES SPINNING AND WEAVING

1<sup>ST</sup> EXPERIMENTAL ARCHAEOLOGY WORKSHOP IN WARSAW  
23-26 JUNE 2014

The first Experimental Archaeology Workshop in Warsaw took place in the Institute of Archaeology, University of Warsaw in June 2014. The Workshop gathered excellent, skilled and eager participants: Rodolfo Brancato, Joanne Cutler, Ana Grabundzija, Pietro Militello, Giulia Muti, Chiara Schoch, Magdalena Ohrman, Małgorzata Siennicka, Emilia Trovato and Sofia Tsourinaki (in alphabetical order). The Workshop was conducted by Agata Ulanowska from the Institute of Archaeology, University of Warsaw and Anna Grossman from the Biskupin Archaeological Museum. Katarzyna Żebrowska was our talented photo-reporter and assistant.

Textile production techniques and fibers used in the Bronze Age Aegean constituted the main reference area. We used copies of actual Aegean artefacts such as spindle whorls replicated in the Biskupin Archaeological Museum and loom weights modelled by students of the Institute of Archaeology, as well as two warp-weighted looms of Scandinavian type. A certain type of a warp-weighted loom was unquestionably used in the Aegean, however its exact construction and dimensions are unknown.

We discussed (less) and practised (more) the benefits of exploratory/experiential experiments in gaining the initial “body knowledge” of textile crafts. The basic functional parameters of textile tools, namely spindle whorls and loom weights, were also deliberated.

We started our “hands-on experience” with two main classes of fibers: wool and flax. The unique natural properties of both fibers were presented. We had an opportunity to see the difference between unwashed, washed, combed and carded wool from the Wrzosówka sheep bred on



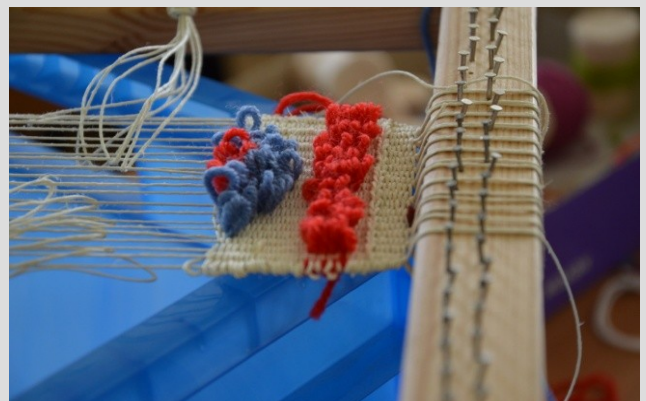
the premises of the Biskupin Archeological Museum. We cleaned in our hands small amounts of rough wool to start spinning by ourselves. Anna Grossman was a great teacher of the basic know-how of spinning but some of the participants appeared to be quite experienced spinners already, Małgorzata Siennicka among them, was able to spin while walking! After the initial attempts in wool spinning we turned to flax and tried to evaluate which fiber was easier to spin for absolute beginners.



We initiated our weaving experience using small band looms with rigid heddles. These looms, with “Minoanising” decoration and an incised date, were specially designed for the Warsaw Workshop by Emilia Mińko, a student of the Institute of Archaeology. The loom with a rigid heddle seems to be one of the simplest implements for weaving – all participants became quite skilled very quickly! Therefore, we were able to try even more complicated

techniques of pattern weaving such as warp floats/warp picked up. All bands were finished with various kinds of fringes. Our first weaving experiences and the basic parameters of the bands were registered on documentation cards which form part of a complex documentation system used for weaving experiments in the Institute of Archaeology, University of Warsaw.

In the meantime, Sofia Tsourinaki kindly presented us with a weft looping technique using a weaving frame – an unexpected bonus for all of us!







The “hands-on experience” in weaving on the warp-weighted loom began with weaving the starting borders of textiles on the rigid heddles again. Then, the participants, divided into three groups of three to four weavers, performed all the consecutive steps of setting up the loom themselves: from sewing the starting border to the cloth beam and suspending loom weights to chaining the warp and knitting the heddles. In order to visualize a broader range of potential loom warping systems, we argued that almost all of these activities might be performed in many ways. Possible differences between operating the modern warp-weighted loom and the Bronze Age one were also discussed.



Finally, all the participants wove a piece of a textile by themselves. We tried to deal with some minor warping mistakes and weaving errors. Luckily, thanks to Anna Grossman’s expert advice, all woven textiles were quite even, especially if we consider some of us absolute beginners! The woven textiles were divided into pieces for all of the weavers, finished and described again on the documentation cards.

Spindle shafts with spindle whorls, some wool from the Wrzosówka sheep and rigid heddles made up an initial textile production set – a souvenir from the organizers of the Warsaw Workshop to all of the participants.

We spent the last day of the Workshop on an excursion to the Central Museum of Textiles in Łódź. The Museum is housed in old factory buildings which belonged to Ludwig Geyer and his family (the White Factory). We had an excellent guide, Agnieszka Szygendowska, the curator of the Museum, who acquainted us with the development of textile production techniques as well as the fascinating history of the White Factory and brought us closer to the daily lives of the factory workers in the late 19th century. Two of the 19th century looms were turned on in our presence by a senior master weaver, Józef Kłosiński, who also described to us some interesting details of his work and master's responsibilities.

For those who were able to stay a bit longer in Poland there was also an excursion to the Biskupin Archaeological Museum – one of the largest and oldest archaeological parks in Europe. We were kindly hosted by the Director of the Biskupin Archaeological Museum, Wiesław Zajączkowski, in a recently opened hotel and conference centre. We are especially grateful for the excellent and fascinating guiding by Anna Grossman, who is the Head of the Research Department of the Biskupin Archaeological Museum, and Wojciech Piotrowski, the Academic Secretary of the Museum.



**We would like to thank all the participants for their dedication  
and stimulating enthusiasm!**

**We welcome at the SECOND Experimental Archaeology Workshop in Warsaw  
in June 2015!**

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All pictures were taken by Katarzyna Żebrowska, except the last one taken by Rodolfo Brancato.  
Chiara Schoch is the author of this excellent drawing