

Biographies of the authors

Ellen Harlizius-Klück – Since childhood, I am fascinated by the logical structure of textiles and the possibilities of engaging this logic and mathematics for their production. Educated in a school for girls that traditionally included courses on all types of textile techniques, but only provided a low level grade, I later did my exam at a secondary school, formerly only for boys and with a focus on natural sciences education and with no practical courses. These contrasts come along with me ever since.

It was the year 1977 when I finished my secondary school exam and went to university. Well aware that the integration of my two main interests: art/textiles and mathematics could not go hand in hand with the curriculum at universities, I took the rare chance of studying at a „Gesamthochschule“, a high school type established in the state of North Rhine-Westphalia. There, I did my teacher exams in mathematics and arts. Later these high schools were transformed into Universities, and today, such combinations are no longer possible.

Along a break for child care, I started to work as artist, with textiles and their structure being my favorite material and topic. My art quilts were presented at exhibitions in Europe, Japan and the USA. However, I also encountered a lot of resentments among my closer art colleagues who claimed that this is just a housewife's hobby.

Artist work always includes an intellectual examination of material and idea, usually not in the form of writing. However, I started writing down my arguments about women's artwork and especially textile art, and also studying philosophy at the University of Düsseldorf. For a long time, my two professions as artist and author went well hand in hand, culminating in a series of works ranging from huge textile installations to small book art or art books, and multiples where textile and text were integrated.

In the year 2002, I was appointed professor for Textile Studies at the University of Osnabrück where I was, again, confronted with resentments of colleagues against such a minor topic that should not be part of a University at all. Notwithstanding such low estimation, which is common in the sciences, I did my PhD on „Weaving as *episteme* and the development of deductive mathematics“. Although the „and“ in the title looks like an innocuous combination, demonstrating a connection of weaving and the advent of science in early Greek mathematics was exactly what I was about to do.

This PhD marked the beginning of my scientific journey to the present project. In 2006, I was scholar-in-Residence at Deutsches Museum, investigating the earliest printed weaver books and manuscripts. When the Museum of Plaster Casts of Classical Sculptures Munich presented a Penelope exhibition in the same year, I was provided a warp-weighted loom and began to study ancient weaving practically. In 2009, I set up a laboratory with warp-weighted loom, library and computer desk as part of an exhibition of ancient textiles (Clothiers Museum Bramsche). For nine months, I worked there, oscillating between computer and loom, and investigating the possibilities of the latter. These studies of ancient textile technology provided a deeper understanding of the intellectual role that weaving, as a practice of ordering elements according to



rules, played across domains like poetry, music, dance, mathematics, and even ideas of political organization in archaic times. In the years 2012 and 2014, a Marie Curie-Grant enabled me to do research at the Centre for Textile Studies (CTR) of Copenhagen University, followed by a grant for collaboration between Danish and German textile researchers, issued by the Humboldt Foundation (Anneliese Mayer Award for Marie-Louise Nosch, head of CTR). In 2015, I received an ERC Consolidator Grant for the project *PENELOPE: A Study of Weaving as Technical Mode of Existence*, which is conducted at the Research Institute for the History of Technology and Science of Deutsches Museum Munich. — e.harlizius-klueck@deutsches-museum.de

Charlotte Holzer — In my work as a textile conservator and researcher, I enjoy to experiment with the joints that connect every single bit of contextual information on an object and my choices for the treatment. In my early days as an university student or during my internships in museums, supervisors helped me to bridge the gap that separates knowledge from action. They thereby saved me from getting lost in the most wonderful stories about Buddhist thangkas or forgetting time over a textile analysis of Baroque silk fabrics or trying yet another instrumental method to identify asbestos. However, the influence of conservators from various backgrounds showed me that already the steps of examination and research produce countless variables affecting the decisions in the conservation process; not to mention the numerous approaches to the actual intervention on the artefact. While I focused on learning the conscious and often unconscious decision paths of a conservator during my education, I aimed at understanding the various possible connections during my PhD. By then, it was high time, that I found my own way, questioned it, tried something new and finished it. So it was no surprise, that when Ellen Harlizius-Klück approached me with Verena Winiwarter's project proposal on weaving the SDGs that the idea immediately struck my core research and learning interests.



Ever since my days at school, this inner core of mine refuses to specialize in one field. Of course, the sheer amount of knowledge makes it impossible to attain the status of an universal scholar today, but the profession of the conservator at least offers the possibility to work very interdisciplinarily. I started my five-year study program at the University of Applied Arts Vienna in 2007 and dived right into this very special mixture of natural science, the arts, documentation and practical work on historic objects. I had the unique opportunity to join a team of conservators working on the collection of a Buddhist temple together with local monks and inhabitants of the Himalayan village Nako, India. I spent my mid-study internship at the Organic Artefacts Conservation Studio of The British Museum London, which not only opened a new world to me in terms of technical skills, but also regarding the vast variety of human forms of expressions in handcraft worldwide. My final thesis was dedicated to the scientific study and conservation of an asbestos proximity suit from the Technisches Museum Wien – a project that was accompanied with many emotions. In 2012, I went on to work at the Textile Conservation Studio of the Bavarian Nationalmuseum in Munich for two years. During this time, I took a break from academia and immersed myself into the pool of experience on historic costumes, accessories and tapestries shared by the team of textile conservators.