

WEAVING FACTS

This is a compilation of short interesting facts about weaving that accompanies the Local Industry project within the Knoxville Museum of Art's exhibition Anne Wilson: Wind/Rewind/Weave, January 22 - April 25, 2010. These facts come from a variety of sources: industry, hand weaving, and science, both historic and contemporary. Sari Gunderson is the lead in research and compilation, utilizing libraries, the Internet, studio practices, interviews, and conversations.

If you have additional short facts to be considered for inclusion, please contact Sari at sarigunderson@gmail.com.

History

The history of brocaded silk weaving in Iran, incorporating gold and silver threads in the weft, dates back to the time before the Sassanid dynasty (224 CE-651 CE.) After this, the handi-craft was exported to Europe because the use of gold was prohibited for men.

--<http://www.textileasart.com/weaving.htm>

There is evidence that the aesthetic impulse to form patterns followed closely after the invention of woven fabric, more than 20,000 years ago. In the earliest woven pieces, simple plain weave floor mats, baskets, and nets, weavers chose grasses of different colors and combined them to create geometric patterns. Even when survival was the first priority and life was precarious, weavers chose to insert beauty into a process which could be purely functional.

--Weaving: A Handbook of the Fiber Arts, by Shirley E. Held, 1978, p. 5.

In the 19th century, warping the loom is a tedious and time consuming first preparation step. Arrowcraft in Gatlinburg (which became Arrowmont) recorded warping time as follows: for an apron with 814 threads, at 24 threads per inch, the weaver took seven hours and ten minutes to dress the loom.

--Weavers of the Southern Highlands, by Philis Alvic, 2003, p. 156.

The Bedouin, nomadic tribes of the Arabian peninsula, live in woven tents. The loom, a fixed-heddle ground loom, is the only major tool kept with them while seeking new pastures for their camels, goats and sheep. With their herds and looms, they are almost completely self-sufficient: the animal provides meat and fat for cooking, milk for making butter and cheese, hair for weaving clothing, bags, tents, ropes and reins. Selling an animal yields cash for purchasing coffee, rice, salt, and cooking utensils.

--The Art of the Loom: Weaving Spinning and Dyeing Across the World, by Ann Hecht, 1989, p.61.

Inconsistent areas in certain large woven Navajo blankets often mistaken as mends are more often deliberate incorporations of various substances and objects. "When you weave a blanket in a certain way, harm cannot befall you. There are things that go in a rug that are aligned with wildlife. Objects are woven in to seek an alliance with certain creatures." In one blanket, a patch area examined closely with magnification contained hairs from a bobcat, a goat, and a bear, shavings of a bear claw, and granules of corn.

--Interview with Harry Burnside, Crownpoint, New Mexico, from Weaving a World: Textiles and the Navajo Way of Seeing, by Roseann S. Willink and Paul G. Zolbrod, 1996.

In early American folklore, weavers and their looms were vital to the young country's survival. Entrepreneur weavers operated out of their home workshops and placed ads in local newspapers, like Stephen Miner in the Connecticut Gazette (Mar 3, 1775). His ad reads that "he weaves Coverlids of all sorts...makes them and knots the Fringe, all in the neatest Manner, for one Dollar each."

--Labors of Love: America's Textiles and Needlework, 1650-1930 by Judith Reiter Weissman and Wendy Lavitt, 1987, p. 82.

Science and Technology

Woven bomb blankets are effective against most pipe bombs, hand grenade fragments and most fragmentation caused by pressure or electrical explosion. These blankets are made of layers of woven ballistic fabrics such as Kevlar, composed of graphite fibers.

--http://directory.officer.com/list/Tactical/Bomb_Blankets

Synthetic woven Dacron or Gore-Tex® grafts are frequently used for vascular replacement surgeries when the patients own veins and arteries cannot be used. Grafts are manufactured in either a woven or knitted form. Woven grafts have smaller pores and do not leak as much blood.

--<http://www.surgical-tutor.org.uk/default-home.htm?tutorials/graft.htm>

In 2007, Philips began developing light-emitting textiles that are now commercially available under the name Lumalive. The fabric construction is a layered system, woven with flexible threads of colored light-emitting diodes (LEDs), visible from the outside only when the display panel is switched on. The system is battery operated and can be disconnected for washing purposes.

--www.lumalive.com

--www.thefutureofthings.com/pod/1001/philips-lights-your-clothes.html

--www.research.philips.com/newscenter/pictures/downloads/ldm-lighting-38-h.jpg

Researchers in the US and other countries are beginning to put E-textiles to use that are made of woven cotton threads coated with carbon nanotubes. These fibers can sense changes in humidity, making them important in high-performance athletic gear, but new research shows them capable of detecting albumin, the key protein in blood. This has great potential for creating wearable devices for monitoring of vital signs.

--<http://www.physorg.com/news147928092.html>

--<http://pubs.acs.org/doi/abs/10.1021/nl801495p>

Contemporary Conversations

".... in the textile industry terminology stripes NEVER exist in the weft direction. Stripes mean color running in the direction of the warp. What you are actually weaving are called bands. Semantics really, but I thought you might be interested to know...."

--Christy Matson, at Oriole Mille, June 2009

A response to the tool that holds the warp stretched full width in the process of weaving: "... It is funny that Bhakti calls it a stretcher, you a temple and I learned to call it a tenter hook."

--Liz Billings, July 2009

I didn't like the idea (joining the weaving workshop) at all in the beginning because I thought weaving is sissy, just these threads. And there was a very inefficient lady, old lady, sort of the needlework kind of type, who taught it. And I wasn't a bit interested. But the only way of staying at that place (the Bauhaus) was to join that workshop. And I did. And once I got started I got rather intrigued with the possibilities there.

--Anni Albers, 1968

Oral history interview with Anni Albers, 1968 July 5, Archives of American Art, Smithsonian Institution.

"An idea for weaving from me is: world wide web."

--Doris Louie, e-mail interview, September, 2009

I am a writer drawn to handwoven textiles, to their language of color, culture, and texture conveyed through the alchemy of technique. While working on a piece about weaving, I searched for the origins of the word textile and discovered roots in text, from the Latin textus, for texture, structure, content, literally a thing woven, and in texere, to weave, construct, compose. This feels like a circular argument that makes a resonant intuitive sense, that whether an artist uses fiber or words, the creative result is woven language. Canadian poet Robert Bringhurst, in "The Elements of Typographic Style," explains it this way: "An ancient metaphor: thought is a thread, and the raconteur is a spinner of yarns – but the true storyteller, the poet, is a weaver. The scribes made this old and audible abstraction into a new and visible fact. After long practice, their work took on such an even, flexible texture that they called the written page a textus, which means cloth."

--Nancy Penrose, November 2009

Industry

"The analytical engine weaves algebraic patterns just as the Jacquard loom weaves flowers and leaves."

--A. A. L. (Ada Lovelace)

This quote initiated my interest in the connection between Jacquard weaving and the beginnings of the computer in the mid 19th century.

--Ruth Scheuing, 1998

At the Bauhaus, the council of masters preferred sending women to the weaving workshop in order to "avoid unnecessary experiments" and be able to reserve the few other workshop places allegedly more suited to men. The emphasis was concentrated on weaving, the technique offering the best conditions for a coupling with the Bauhaus program. Here, "experimental work" could be performed for industrial manufacture.

--Bauhaus-Archiv Museum of Design.

http://www.bauhaus.de/english/bauhaus1919/werkstaetten/werkstaetten_weberei.htm

Folklore, Mythology and other stories

In Greek mythology, the most well known instance of weaving is the story of Athena and Arachne. Arachne becomes increasingly boastful of her weaving skills, until her words make their way to the ears of Athena, the goddess of skills. Enraged about this new competitor, Athena shows up and challenges Arachne to a weaving contest. Arachne's tapestry is far more detailed and well-done than Athena's, so Athena damns Arachne to a life of "spinning forever" by turning her into a spider. Arachne immediately weaves a stunning and intricate web.

--<http://www.greek-gods.info/greek-gods/athena/stories/athena-arachne>

In the well-known Germanic tale, Rumpelstiltskin, a miller/commoner lied to the king that his daughter could spin straw into gold. The king called for the girl, shut her in a tower room with straw and a spinning wheel, and demanded that she spin the straw into gold by morning, for three nights, or be executed. She had given up all hope, when a dwarfish creature appeared in the room and spun straw into gold for her in return for her necklace; then again the following night for her ring. On the third night, when she had nothing with which to reward him, the strange creature spun straw into gold for a promise that the girl's first-born child would become his.

The king was so impressed that he married the miller's daughter, but when their first child was born, the dwarf returned to claim his payment: "Now give me what you promised". The queen was frightened and offered him all the wealth she had if she could keep the child. The dwarf refused but finally agreed to give up his claim to the child if the queen could guess his name in three days. At first she failed, but before the final night, her messenger discovered the dwarf's remote mountain cottage and, unseen, overhears the dwarf singing a song that declares his name to be Rumpelstiltskin, and he lost his bargain, running away into the forest.

--<http://en.wikipedia.org/wiki/Rumpelstiltskin>