

# Weaving

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*Good cloth could be worth its weight in gold. In 300 AD during the Roman Empire, a pound of fine-quality silk was purchased for a pound of gold, according to weaving history.*

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## Objectives

- To explore the history of weaving and how the art evolved over time.
- To examine how weaving was a necessary part of early American life.
- To understand how weaving today has become a true art of expression by the artist and a treasure for the collector.



## Weaving

A method of producing cloth or material by crossing two sets of thread perpendicular to each other. The dictionary defines a loom as “a frame or machine for interweaving yarn or threads into a fabric, the operation being performed by laying lengthwise a series called the warp and weaving in across this other threads called the weft, woof, or filling.”

## History

A recent archeological discovery has placed the origin of weaving at more than 24,850 years ago. Due to the hazards of climate, insects, and fire, very few early fabrics have survived. However, archeologists have found some examples of early textiles and weaving tools.

Archeologists believe that basketmaking and weaving were probably the first “crafts” developed by humans. Weaving probably evolved in the quest for the basic needs of food, shelter, and clothing.

Archeological research indicates that cultures on every continent devised crude looms and methods of weaving. Perhaps they realized the possibilities of weaving after watching spiders spinning a web, birds building a nest, or beavers building a dam.

Once early civilizations learned ways of creating a woven structure, people could make many items such as rugs, blankets, curtains, purses, body coverings, fish netting, hut coverings, food containers, and infant carriers. After learning survival techniques, humans next wanted to embellish the objects they created. Human beings have a natural, strong desire to be creative.

Cloth was made in Mesopotamia and Turkey as early as 7000 B.C. Garments and weaving tools were found in Egyptian tombs. Most Egyptian cloth was of linen and cotton. Even though wool was available, it was considered a fiber of the lower class. One law even forbade members of the priesthood to wear wool next to their skin or in a place of worship. However, the Hebrews in 3000 B.C. used wool more than any other fiber, and white wool was the finest. Hebrew priests were required to wear pure linen. One law prohibited wearing fabrics made from a mixture of linen and wool. Married Hebrew women were also forbidden to spin in public places or at night by moonlight. Because of the active nature of the spinning process, a woman’s arms might be revealed, which could give a husband the right to divorce his wife.

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## History *(continued)*

For more than 3,000 years, China kept the process of cultivating silk a mystery to the outside world. In the 27<sup>th</sup> century B.C., the emperor noted a disease was destroying the royal mulberry trees. The empress noticed small white worms were devouring the leaves and then spinning white cocoons. When the empress dropped one of the cocoons in warm water, a network of a continuous fiber unrolled. One was 1,000 yards long. Thus, an exquisite thread was discovered that did not need to be spun into a fiber for weaving. Silk was used to make elegant tapestries and garments.

## Weaving in America

When the first European settlers came to America, they brought with them a type of loom that had been used in Europe since before the 1300s. It was a horizontal frame loom, one that hand-weavers still use today.

In the South, plantation owners built weaving shops where slaves and servants produced cloth for bed ticking and garments. A few estates even began turning out elegant silks and fine linens. Because textiles were of little value compared to tobacco, most planters preferred to import cloth from England.

Since New Englanders could grow neither tobacco nor an equivalent crop to trade, they relied almost exclusively on weavers for their cloth. Many an impoverished Englishman earned passage to New England by indenturing himself as an apprentice weaver. Many prospered and became wealthy.

Most rural settlers had to weave for themselves. Through the 18<sup>th</sup> century, all members of the family learned to weave, although women did most of it. Some men traveled from farm to farm with a loom (a barn loom) in the back of their wagon. The farm women gave them their rags to be woven into rag rugs.

Most of the cloth produced in colonial times was simple and sturdy. Plain woven wool and linen were used for clothing. A homespun fabric was made from tow, left over after making linen. Linsey-woolsey, which had a linen warp and a woolen weft, was often made into beautiful



coverlets. Hope chests of brides-to-be were filled with finely woven bed linens, towels, and curtains.

It was difficult to produce fine fabric with straight selvages and evenly spaced weft. Similar to knitting, one achieved an even tension after years of practice and patience. Good weavers were proud of their work.

During the 1800s, the Shaker sect became quite well known for making multicolored rag carpets. However, the Shaker doctrine of simplicity, known as the Millennial Laws, included guidelines for weavers in 1840. Two rules concerning a dwelling's furnishings forbade checks, stripes, or flowers on bedspreads and window curtains.

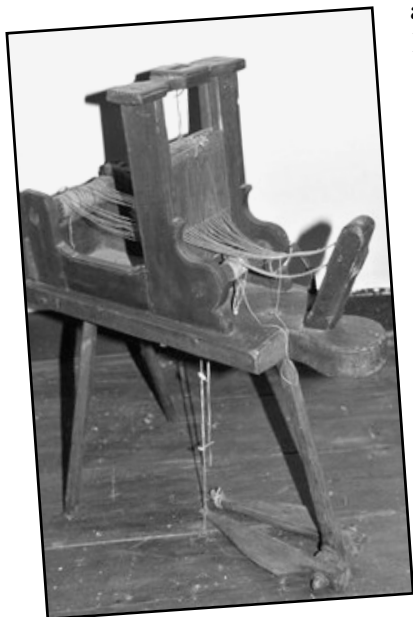
The Navajo Indians, who learned a weaving skill from the Pueblo Indians, have for more than 400 years created special weaving patterns for rugs and blankets that have been given as gifts and sought by art collectors.

Today, oriental rugs are still prized by many collectors and have become treasured heirlooms.

Textile production went through profound changes brought about by the Industrial Revolution in the 19<sup>th</sup> century. At the beginning of the century in America, weaving was still done by hand, both commercially and at home. Most professional weavers were men who did their work for sale. Women wove items at home for family use.

By the end of the 19<sup>th</sup> century, weavers were simply mill workers who tended several water- or steam-powered looms at a time. The increased speed of production brought more textiles to the average farmhouse and rendered most hand-weaving obsolete.

At the end the 20<sup>th</sup> century, many weaving mills were moved to foreign countries where labor costs were considerably less. With further computerization of weaving machines, labor costs have been cut even more. Because of industrialization, it is cheaper to buy ready-made woven items than it is to produce them at home today.



## Weaving as a process

### *Understanding weaving terminology*

**Loom** – a frame that holds the vertical threads stationary so that one can weave.

**Warp** – the vertical threads.

**Weft** – the horizontal threads that are woven through the warp.

**Sett** – the number of threads per inch used to produce a specific cloth.

**Reed** – a metal frame containing slots called dents through which the thread or warp is passed.

**Harness** – a rectangular frame behind the reed that holds the heddles.

**Heddles** – pieces of metal or string that have a hole in the middle through which the warp is passed.

**Shuttle** – an instrument that holds the weft thread used in weaving.

**Shed** – the opening made by lifting up some of the threads of warp, which the shuttle passes through.

### *Types of looms and weaving devices*

**Card weaving** – an old method of weaving using cards with holes in each corner through which you put warp thread. The ends of the warp are tied onto stationary objects and you weave by lifting up the cards or putting them down. The pattern can be altered by turning the cards.

**Back strap loom** – the loom used by Native Americans. The warp is threaded through the reed and tied to a tree at one end and around the waist of the weaver at the other end.

**Inkle loom** – a small loom used to make straps and narrow strips of material.

**Table loom** – small loom placed on table; its levers are worked by hand.

**Floor loom** – large loom that stands on the floor and is worked by foot pedals. Four to eight harnesses are common, but these looms can have as many as 20. The more harnesses they have, the more intricate patterns that can be woven.

### *Basic types of weaving*

**Plain weave, also called “tabby”** – the weft thread goes over one thread and under one thread.

**Twill** – the weft thread goes over two threads and under two threads (even twill), causing the pattern to slant to one side. Used in material for clothing and blankets because it drapes better than plain weave. There are many variations of twill patterns including offset, broken twill, and waffle weave.

**Overshot** – a type of twill weaving in sections of blocks that creates a curving pattern—used extensively in colonial times for coverlets. The pattern thread is held in place with alternating rows of plain weave.

**Double weave** – a plain weave that is a tube of material.

**Honeycomb** – pattern resembles a honeycomb.

**Lace weaves** – many lace patterns are created by manipulating the warp with the fingers or just by using a pattern.

**Summer and winter** – this type creates a reversible pattern that can be used on table linens.

### *Materials used in weaving*

Any kind of thread or fiber can be used in weaving, including cotton, silk, linen, wool, rayon, acrylics, ribbon, weeds, and twigs.

### *The weaving process*

The first step in weaving is to measure the warp threads using a warping board. Next, thread the warp one strand at a time through the reed, through the heddles. The last step is tying the warp onto the front and back beams of the loom. The warp is then tightened; a shed is made by lifting up some of the warp threads. Then, the shuttle is thrown through the shed and the weft is beat down, making fabric.

## Weaving today

Hand-weaving today is both a hobby and an industry. Many production weavers today create tapestries and other materials used to decorate buildings and homes. They speak of experiencing a joy as they watch a complicated pattern grow into a work of art.

Many hand-weavers also weave fabrics for beautiful garments. These are definitely a true luxury—a one-of-a-kind, quality item made by skilled craftsmen who carry on past traditions.

Weaving—like quilting, basketmaking, and landscape painting—has become a respected art. Many of these works of art become family heirlooms passed down from generation to generation as nondeeded property. Linsey-woolsey coverlets (made from wool weft and linen warp) woven in intricate patterns have long been prized family possessions. Today’s fine-woven, handmade pieces may be just as prized tomorrow.



## Follow-up activities

- Ask participants to bring a hand-woven textile product and share its history with the group.
- Invite a member of the local weavers’ guild to speak to your group.
- Sponsor a weaving exhibit in a library, museum, or other public building.
- Organize a workshop to learn the basics of weaving.

## Resources

- Barber, E.J.W. *Women's Work: The First 20,000 Years*, New Jersey: Princeton University Press, 1991.
- Black, Mary E. *Key To Weaving*, New York: The Macmillan Publishing Co., Inc., 1957.
- Chandler, Deborah. *Learning to Weave*, Loveland, Colo.: Interweave Press, Inc., 1995.
- Davison, Marguerite Porter. *A Handweaver's Pattern Book*, Swathmore, Pa.: Marquerite Porter Davison, publisher, 1944.
- Ohio Valley Spinners and Weavers Guild, Wheeling, W.Va. *Simple Gifts* (25 authentic Shaker craft projects) by editors of Garden Way Publishing, 1990.
- Weaving: Back to Basics*, The Reader's Digest Association Inc., 1981.
- West, Virginia M. *Finishing Touches for the Handweaver*, Newton, Mass.: Charles T. Branford Company, 1968.
- Wylly, Susan. *The Art and History of Weaving*, Georgia College and State University, 2003.

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