

Comparisons of Twill & Tabby

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Abstract

When researching the weaving structures Tabby and Twill, information about textiles made in East Asia and China pop up. This paper will first go over the appearance of tabby and twill and where/when it was used. Leading into its structure and lastly some comparisons.

Keywords: Tabby, Twill, Weaving, Pattern, Warp, Weft

Chronological Origins

From researching, there's an abundance of textiles with patterns that originate from East Asia and China. Like a couple centuries back, during the Shang and Zhou Dynasty, bronze burial objects were found wrapped with remains of textiles. Some would say this might be the origin of where Tabby and Twill come from because of the abundance of textile evidence left overtime. There's evidence of hand weaving and loom weaving on a card loom to help evolve the silk industry in the 18th century. The remains of these textiles on bronze burial objects are a "part of the patina¹, exist as pseudomorphs² in which bronze corrosion has replaced organic structures." (Pgs 74-75; Vollmer, 1974). Tabby weave structures were the most abundantly used.

The appearance of textiles didn't just end with the Shang and Zhou Dynasty, but it also progressed onto the Han Dynasty. During the Han Dynasty we start to see geometric patterns being produced on "monochromatic tabbies, mock leno, figured gauzes and in loop warp fabrics." (Pg 75; Vollmer 1974).

As weaving evolved, twill weaving begins to replace basic tabby in order to create pictorial patterns. People would use silk fibers in order to create true brocading fabrics, which are elaborate woven fabrics with designs such as embroidery, embossing, and often used gold/silver threads. True brocading was used "with supplemental wefts on satin, twill and tabby grounds, as well as tapestry weave on a tabby base, are added to gauze³ weaves." (Pg 75; Vollmer 1974).

¹ A greenish-brown color on the surface of a bronze or metals, produced by oxidation over a long period.

² A mineral formed by chemical or structural change of another substance, while retaining its original shape.

³ Gauze weaving is an open weave made by twisting adjacent warps together.

So far we know that weaving was done on silk, gauzes; with inclusion of brocading, geometrical and pictorial patterns. In Vollmer, it is said that by the 16th century, velvet was also woven with twill and tabby. Velvet is made up of a warp cut-pile and “silk, wool and cotton were the common fibres used for weaving velvets.” (Velvet Weaving: History & Technique)

Weaving has been around for centuries. We see tabby forming in 1028-722 B.P.E., during the Shang and Zhou Dynasty. While satin and twill progressed in 206 B.P.E.-220, during the Han Dynasty and continued to be used throughout the 18th century. Ending with its use in the creation of velvet.

Tabby

Tabby weave structure is the most basic of the three fundamental textile weaves. Its interchangeable name is plain weave. On a grid, the x-axis/horizontal line would be the weft in weaving and the y-axis/vertical line would be the warp. In order to weave a tabby, you'd be weaving a thread over and under a warp (y-axis) thread while moving/ making your way up slowly through the (x-axis) weft. So the weft goes over one warp thread, and then under the next one. This format continues until you get to the next row, where you'd have to reverse the order of how you did it the first weft. Tabby is used when people want to create a block pattern/a simple grid. It's sturdy, efficient and the easiest to learn.

Twill

The twill weave structure is more complex than tabby. Once you've mastered twill you'll end up creating a diagonal pattern. It's like an illusion forming right in front of your eyes. To create a twill pattern, you have to construct diagonal lines by going over two warp threads, then

under two warp threads and over two warps; continuing this process until you get to the end of the opposite side you started with. In order to begin the next row, you have to go over/ under one warp thread depending on how you started, and then from there continue over and under two warp threads until you get to the end. From there you begin doing the first process of over and under two again. It's all about being consistent with what you do on both sides. If you start from the right side, then it's over two and under two. From the left, its over/under one then over and under two. If you start from the right, your diagonal should form going towards the right. Same thing vice versa for the left. Twill is used when you want to add a little design to a fabric, it's also used for its durability and because it hides stains well.

Comparisons

Some comparisons of tabby and twill are that they both produce strong fabrics. They're both interlacing patterns, although they are woven differently. They were also abundantly used in East Asia and China for different fabric designs and purposes.

Difference. They're thread densities and patterns are different. Twill is used more for jeans/ things that need to be a bit sturdier. While tabby is used for blankets made of thick yarns and muslin, it's also used in cotton poplin.

Reflection

Before starting research on this topic, I didn't know much about tabby and twill, I thought they were fabrics. This has taught me that these weave structures aren't fabrics but instead are used as a fundamental basis to create fabrics. Along with how they were vastly used in the Eastern part of the world and depending on what you want your end product to look like, you'd use one of the weave structures over the other.

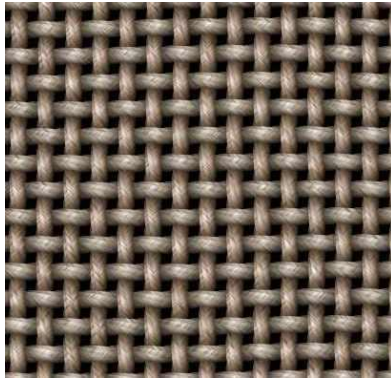


Image 1 is a plain weave *sourced from Textile Learner* -

https://textilelearner.blogspot.com/2011/03/definition-and-characteristics-of-plain_4390.html

Image 2 is a twill weave *sourced from Amazon* -

<https://www.amazon.com/carbon-fabrics-1meter-width-39-5-Automotive/dp/B01BIGRFK2>

Image 3 is a Bronze armor of Western Zhou Dynasty *sourced from Hanfu Costume* -

<https://www.hanfucostume.com/chinese-ancient-armor- I .html>

Image 4 is a cotton poplin shirt on a model *sourced from Everlane* -

https://www.everlane.com/products/womens-relaxed-ctn-shirt-blue-end?utm_medium=cpc&utm_source=pla-google&utm_campaign=838503720&utm_content=197323922060&utm_term=pla-

[509339558312&adgroup=44486387162&pid=3229-13630&device=m&gclid=CjwKCAiAlO7uBRANEiwA_vXQ-5HtO3xn5J5PJkzZ2cxAhDBg_GePAuoxkF0SD12dv3zxI3_3NL4JhoC7cgQAvD_BwE](#)

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