

## Introduction

This paper is about my obsession with a taqueté fragment preserved in a museum in Belgium.



**Figure 1 Coptic taqueté fragment, AD 500-700, ACO.Tx.2008 Musées royaux d'art et d'histoire<sup>1</sup>**

This woven Coptic fragment, which is hundreds of years old and yet looks so contemporary, comes from a textile probably woven by someone like me, someone practicing weaving as home craft and looking for a way to accessorize her living room.

## About taqueté

The story of taqueté goes back to the Roman Empire. Pliny the Elder himself had something to say about it. It is thought that taqueté was invented by tapestry weavers looking for a faster way to produce weft-faced fabric, the speed of weaving mechanically selvedge to selvedge trumping design flexibility.

Taqueté is a weft-faced textile woven with two or more wefts of different colour. Taqueté goes by many names. Pliny the Elder called it polymita and beginner weavers erroneously refer to it as

summer and winter without tabby. Purists use the term weft-faced compound tabby. Yet others call it weft-faced summer and winter, weft-backed plain weave, 2-block tied double weave, polychrome summer-and-winter weft-faced weave, or two-tie unit with four-end blocks. Atwater coined the term stuffer rug or two-warp weaving and Tidball changed that to double-faced stuffer weave or warp stuffer system. To Scandinavian weavers it is known as double-binding and to Persian rug weavers Zilu.

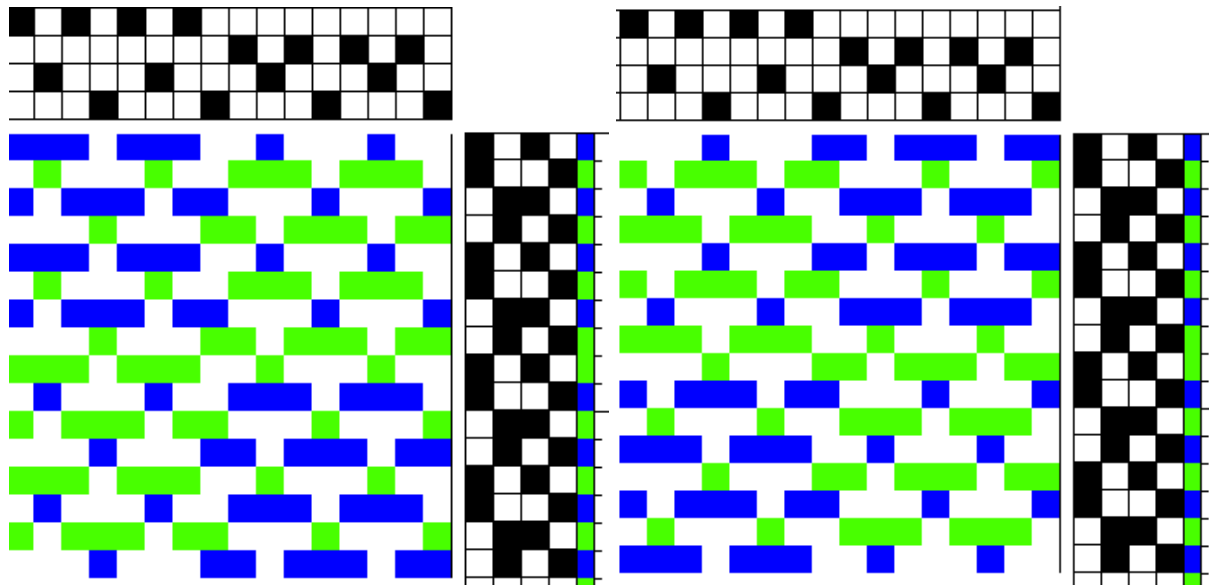
The earliest example of taqueté in existence in the world, a wool sample found in Masada, dates from the 1<sup>st</sup> century BC (Vogelsang-Eastwood, 2018; Pritchard, 2014; Verhecken-Lammens, 2007). A silk dress dated 1<sup>st</sup> century AD was found in Marseilles (Wild, 1987). Taqueté, born in the Middle East, perhaps in response to the warp-faced silk textiles coming from China, eventually became adopted in China itself and beyond. Today, taqueté is used mostly for rug weaving and lends itself to shaft-switching and pick-up techniques.

## Taqueté structure

Technically, taqueté is “weft-faced compound tabby”. It is threaded like summer and winter and woven on opposites with two contrasting colours on the same threading as summer and winter but unlike summer and winter it does not have a ground cloth. Instead of thinking of taqueté as summer and winter, it is best to think of taqueté as a weft-faced block weave that uses two warps and at least two wefts contrasting in value. One warp acts as the binding warp and the other warp creates the pattern. The binding warp weaves tabby. The pattern warp controls what weft colour appears on the surface of the fabric in a given block (the other weft appearing on the back of the cloth). The pattern warp does not show at all; it is an “inner” warp that does not interlace with the weft. When woven with two wefts, taqueté is completely reversible. Unlike summer and winter which has a tabby weft

and a supplementary weft, both wefts in taqueté are required to give the fabric its structure. These wefts are complementary.

Block A is threaded 1323 and Block B is threaded 1424. Four picks are required for each unit, that is, four picks are required to weave a solid multi-coloured line on both sides of the fabric:



**Figure 2 Taqueté draft (front and back)**

The ratio of binding warp ends to pattern warp ends in the recovered Coptic textile fragments is usually 1 to 1. However, a few fragments have a 1:2 ratio (1 binding warp end to 2 pattern warp ends). These paired warp threads work together and act as a single thread. They behave exactly the same way as the four warp threads in Atwater's stuffer rugs. Some samples have been found where the proportion of pattern warp threads to binding warp threads varies within the cloth (Verhecken-Lammens, 2007).

## The origin of taqueté

The theory is that the development of weft-faced Coptic taquetés was informed by the warp-faced silk fabric making its way from China to Egypt along the Silk Road. Since silk yarn was not yet readily available in Egypt, the local weavers in the 3<sup>rd</sup> century AD turned the draft as it were and used their

woolen yarn instead of silk. Therefore, the “turned” taqueté so popular today would in fact be the ancestor of the “real” taqueté. Later (7<sup>th</sup> to 10<sup>th</sup> centuries), Chinese weavers developed their own form of taqueté.

Egyptian explorations at the turn of the 20<sup>th</sup> century unearthed thousands of scraps, mostly wool, in rubbish heaps and cemeteries. Of those thousands of fragments, only a fraction is woven in taqueté. Moreover, simple textiles such as the Tx.2008 fragment are in fact rare. Most of the recovered taqueté textiles are highly decorated with plant motifs (e.g., palmettes), animals (e.g., lions), human figures, and geometric patterns such as rosettes, octagons and eight-pointed stars and would have been woven by highly skilled artisans toiling in the specialized weaving workshops of Alexandria and other such cities.

## Uses in Coptic times

In Coptic times, taqueté fabrics were used mostly for mattress covers, cushions covers, and coverlets. These were not refined textiles: Chris Verhecken-Lammens (2007) refers to the Tx.2008 checked fragment as a heavy textile with thick warps. This fits the function of a mattress cover. One of the largest Coptic taqueté textiles to make its way to us (238.6 cm × 132.7 cm) is preserved in the Textile Museum in Washington DC. This highly decorated textile was probably a coverlet but could also have been a wall hanging. Cushion covers woven in taqueté were found in the graves of Antinoë. We know they were cushion covers because they were found under the heads of bodies buried in the cemetery and were still filled with feathers. The fact that one side of many Coptic taquetés is worn more than the other provides another clue that many of these textiles were used as covers.

## Coptic taqueté looms

The looms required to weave taqueté are not complicated. And yet there is considerable debate on the type of loom that was used to weave taqueté during Coptic times. It is certain that some sort of

mechanization was employed but was the loom a foot-powered horizontal loom with treadles? A horizontal loom with heddle rods? A draw loom similar to the Akhmim loom still in used today? Or something similar to the vertical Zilu loom of Iran?

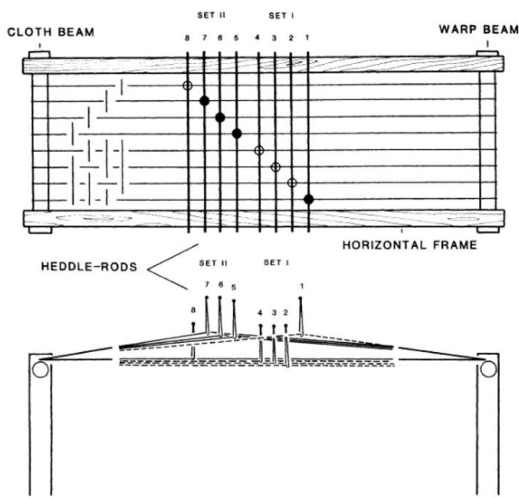


Fig. 2. A simplified reconstruction of the Roman horizontal loom with multiple heddle-rods, viewed in plan (above) and elevation (below). The filled circles on the plan denote loops raised by their controlling heddle-rods, as shown in elevation.

Figure 3 Roman horizontal loom (Wild, 1987)



Figure 4 Zilu loom (Saladrigas, 2015)

## Tx.2008 description

The Brussels taqueté fragment Tx.2008 is 13.5 cm long by 12 cm wide. It features blue and green checks separated by red bands. The monochrome red bands are also woven in taqueté. The use of monochrome bands is typical of such textiles (Pritchard, 2014). The fragment has been radiocarbon-dated to AD 320–550 (Pritchard, 2014)<sup>2</sup>. The sample has been extensively documented by Chris Verhecken-Lammens (2007) and Daniël De Jonghe (2006). Both authors have even identified threading mistakes. What makes the Tx.2008 fabric so interesting is the mix of Z- and S-spun yarns, the selvedge treatment, and the number of picks per block.

The warp is S-spun brown wool with a sett of 10 ends/cm. The red and green wefts are Z-spun wool and the blue weft S-spun wool. The ppi count is 48 picks/cm (24 picks/cm per colour). The large checks are three times the size of the small ones.

The Tx.2008 fragment was donated to the Musées royaux d'art et d'histoire in 1887 by one Isabelle Errara<sup>3</sup>, a Belgian art historian specializing in textiles. Fragments from what appears to be the same fabric are preserved in museums in Paris and New York City (Verhecken-Lammens, 2007). Also, by all appearances, V&A sample T899-1886 (Figure 5) belongs to the same fabric or a very similar one. This fragment of mattress or cushion cover was found at Akhmim and is dated 4<sup>th</sup>-7<sup>th</sup> century. The V&A notes that “the design and two-tone effect of this piece is in imitation of contemporary silks”.



**Figure 5 Taqueté sample V&A T899-1886<sup>4</sup>**

### Yarn twist

Unlike most taqueté samples, the Tx.2008 fragment features a mix of Z-spun and S-spun yarns. Most Coptic taquetés are made of 100% S-spun yarns (an indication that they were woven in Egypt), some are made of 100% Z-spun yarns, and very few contain both (Verhecken-Lammens, 2007).

### Selvedge

The last three warp ends of the Tx.2008 fragment are doubled at the selvedge. Only one weft interlaces with the last two warp doubled threads. The other weft wraps around the third double warp

end. Moreover, the blocks in the selvedge are not aligned with the blocks in the body of the fabric. This suggests that the selvedge was manipulated by hand and not formed by the shafts.

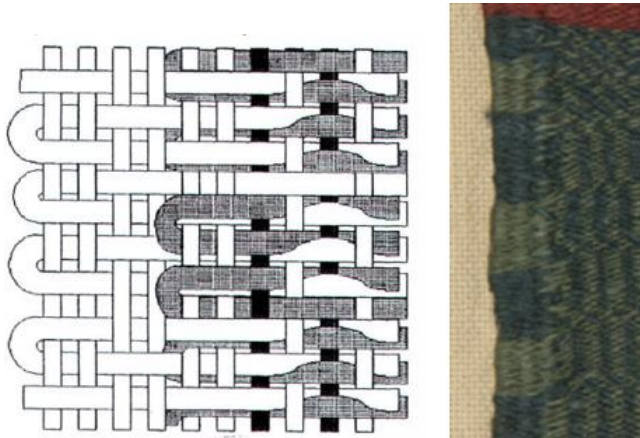


Figure 6 Selvedges of the Tx.2008 sample<sup>5</sup>

### Block changes

The most interesting peculiarity of this fragment is that the number of picks per block is not a multiple of four. In fact, the blocks have an odd numbers of picks. The narrow blocks have 7 picks and the square ones 43 picks instead of 8 and 44 (De Jonghe, 2006; Verhecken-Lammens, 2007). The thinking is that skipping the last pick makes the weaving easier: the pattern shed remains open for the colour change. Compare Figure 2 to Figure 7. In Figure 7, shafts 2 and 3 should have been lifted for the seventh pick. Instead, shafts 2 and 4 are up: the pattern shaft 4 remains lifted and the tabby shaft changes. There is no eighth pick. The end result is that there is need to alter the colour order. De Jonghe argues that this intentional treadling “error” is a proof that this textile was woven on an horizontal loom equipped with heddle rods and operated by two weavers: one creating the sheds (and therefore in charge of the design) and one throwing the shuttles back and forth.

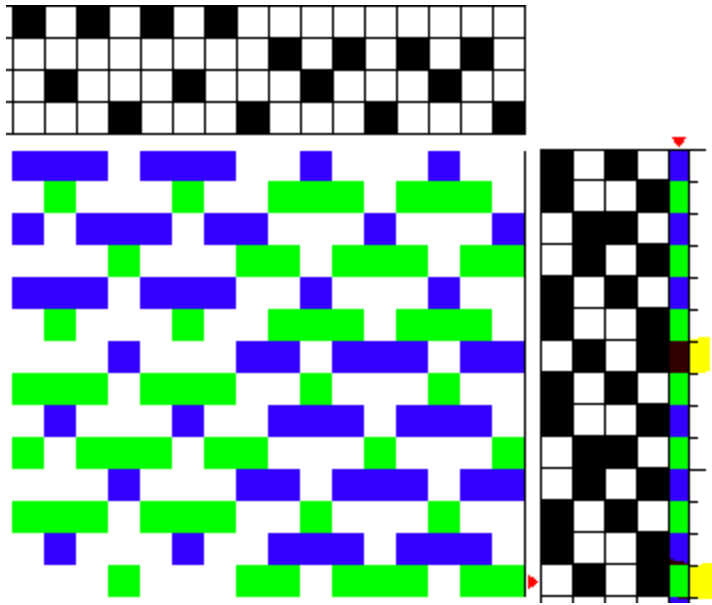
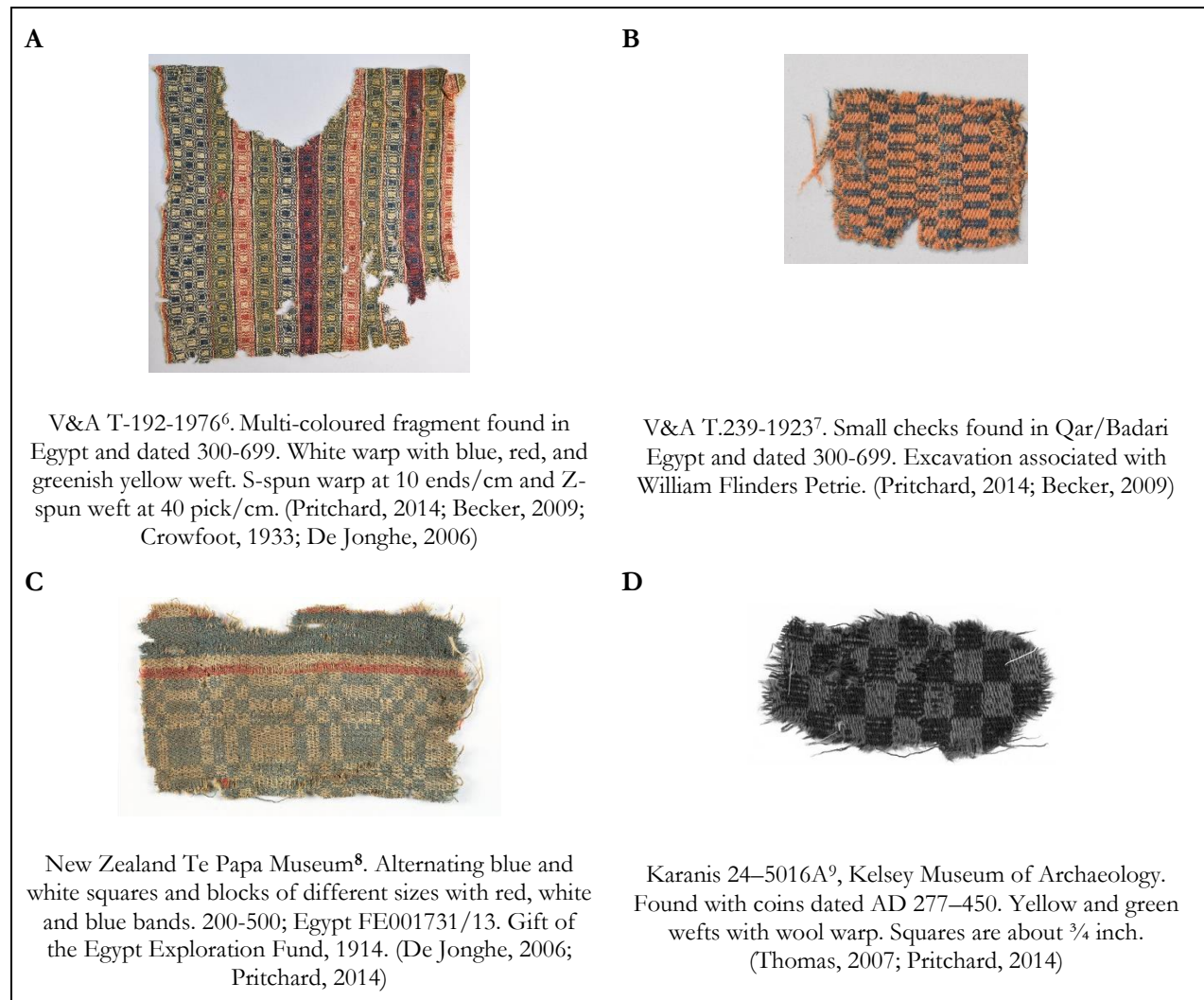


Figure 7 Threading Tx.2008



## Related fragments

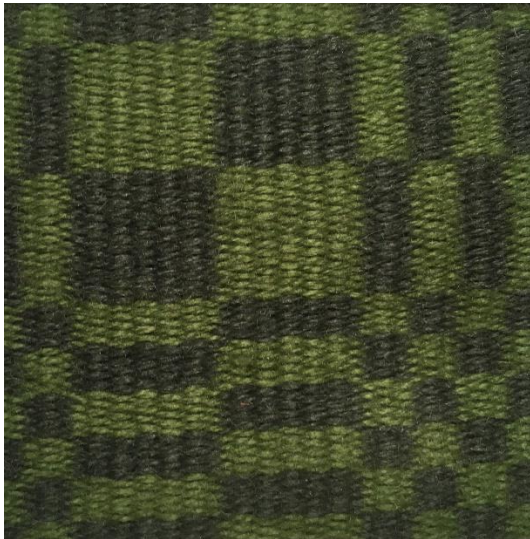
Other fragments featuring geometric designs are shown in Figure 8. According to De Jonghe's analysis, samples A, B, and C all have an odd number of picks per block.



**Figure 8 Checked taquetés**

## Tx.2008 recreation

I attempted to recreate the Tx.2008 fragment but was not entirely a successful: weaving taqueté requires patience and practice. For the sample below, I used 10/2 mercerized cotton (4,200 yards/lb) for the warp at a sett of 14 epi and Blue Mountain 8/2 wool (2,100 yards/lb) at 45 ppi per color for the weft. In retrospect, I should have opened the sett a little bit and used a gentler beat.



**Figure 9 Recreation of the Tx.2008 fragment**

I can safely say that there is no rug weaving in my future but I do want to explore designing wall hangings in taqueté with fine threads.

## References

- (2014) Akhmim - Au fil des femmes. Ouvrage dédié aux femmes d'AKMIM, qui ont travaillé la broderie depuis l'époque des pharaons. Retrieved September 26, 2020, from: <https://issuu.com/stephane-s/docs/akhmim-web/31>.
- Allen, H (1998). Weaving contemporary rag rugs. Asheville, North Carolina: Lark Books.
- Atwater, Mary M. (1941). Something new in rugs. *The Weaver*, Volume VI (Number 4), pp. 11-16.
- Becker, J (2009). Pattern and Loom: A Practical Study of the Development of Weaving Techniques in China, Western Asia and Europe. Retrieved September 26, 2020, from: <http://donwagner.dk/Pattern-and-Loom.pdf>.
- Bender Jørgensen, L. (2007). Dated textiles from Mons Claudianus and 'Abu Sha'ar.' In *Methods of dating ancient textiles of the 1st millennium AD from Egypt and neighbouring countries: Proceedings of the 4th conference of the research group Textiles from the Nile Valley, Antwerp, 16–17 April 2005*, A. De Moor and C. Fluck (eds), pp. 26–35.
- Borrego, P. and Saladrigas, S. (2014). Technical and stylistic study of two complete mediaeval cloths found in Carrión de los Condes, Spain. *Proceedings of the Vth International Symposium on Textiles and Dyes in the Ancient Mediterranean World (Montserrat, 19-22 March, 2014)*, J. Ortiz, C. Alfaro, L. Turell and M.ª J. Martínez (eds.) pp. 163-170.
- Barrett, C. (1985). Taqueté and Samitum. *Weaver's*. Issue 5, pp. 46-51.
- Barrett, C. (1992). *Summer & Winter and Beyond*. Boulder, CO: Colorado Fiber Center, Inc.
- Ciszuk, M. (2004). Taqueté and damask from Mons Claudianus: A discussion of Roman looms for patterned textiles. In *Purpureae vestes: Actas del I Symposium Internacional sobre Textiles y Tintes del Mediterráneo en época romana*, (Ibiza, 8 al 10 de noviembre, 2002), C. Alfaro, J. P. Wild and B. Costa (eds), pp. 107–13.
- Collingwood, P. (1968). *The Techniques of Rug Weaving*. New York, NY: Watson Guptill.
- Collingwood, P. (1990). *Rug Weaving Techniques: Beyond the Basics*. Loveland, Colorado: Interweave Press.
- Crane, P. (2020). Two-for-One Taqueté Rug. *Handwoven*. Volume XLI, Number 5, pp. 52-54.
- Crowfoot, G. M., & Griffiths, J. (1939). Coptic Textiles in Two-Faced Weave with Pattern in Reverse. *The Journal of Egyptian Archaeology*, 25(1), pp. 40–47.
- De Jonghe, D. (2006). Sur la Technique du Taqueté façonné à carreaux des Musées Royaux d'Art et d'Histoire de Bruxelles, le Tx.2008. *Archaeological Textiles Newsletter*, 42, pp. 12-20.
- Doyle, J. (1998). Taqueté rugs. *Weaver's*. Issue 42, pp. 30-32.
- Eriksson M., Gustvsson G., & Lovallius K. (2011). *Warp and Weft*. North Pomfret VT: Trafalgar Square Books.
- Evans, J. (1983). Warp Stuffer Weave with Shaft Switching Applications. *Handwoven*, Volume IV, Number 3, pp. 72-73.

- Floderus, N. (2019). Taqueté with the Aid of Shaft-Switching. *Väv*. Number 2, pp. 42-45.
- Hoskins, N. (2002). *Weft-Faced Pattern Weaves: Tabby to Taqueté*. Northampton MA: Valley Fibers Corporation.
- Ignell, T. (2006). *Favorite rag rugs*. Västerås: ICA bokförlag.
- Ignell, T. (2019). Shaft-Switching – Pattern Weaving. *Väv*. Number 2, pp. 42.
- Ignell, T. (2019). Taqueté Pick-Up. *Väv*. Number 2, pp. 38-39.
- Keasbey, D. (2005). *Pattern Techniques for Handweavers*. Eugene, OR: Self-published.
- Keasbey, D. (2011). Favorite finishes for weft-faced rugs. *Handwoven*, Volume XXII, Number 5, pp. 80-81.
- Knisely, T. (2011). Making a simple shaft-switching device. *Handwoven*, Volume XXII, Number 5, pp. 73-74.
- Krody, S. B. (2019). Continuity and Change. In *Woven Interiors: Furnishing Early Medieval Egypt*. G. Bühl, S. Belger Krody, and E. Dospěl Williams (eds), pp. 113-127. Washington, DC: The Textile Museum.
- Livingstone, R. (2005). Textiles from Antinoë in the Museum of New Zealand Te Papa Tongarewa. *Archaeological Textiles Newsletter*, 40, pp. 2–6.
- Lusk, M. & Wood, C. (2020). Samba. *Handwoven*, Volume XLI, Number 5, pp. 56-59.
- Pritchard, E. (2011). Shaft-switching for taqueté rugs. *Handwoven*. Volume XXII, Number 5, pp. 70-72.
- Pritchard F. (2014). Soft-furnishing textiles from the Egypt Exploration Fund Season at Antinoupolis, 1913-14, *British Museum Studies in Ancient Egypt and Sudan*, 21, pp. 45-61.
- Pfister, R. (1948). Le rôle de l'Iran dans les textiles d'Antinoé. *Ars Islamica* (9–10), pp. 46–74.
- Regensteiner, E. (1970). *Art of Weaving*. Van Nostrand Reinhold Company. New York NY.
- Regensteiner, E. (1986). *Weaver's Study Course: Sourcebook for Ideas and Techniques*. Schiffer Publishing: West Chester, PA.
- Rhode, M. F. (2000). Block weave rugs. *Handwoven*. Volume XXI (3), pp. 44-47.
- Saladrigas, S. and Munakata. K. (2015). Fabrics and looms in present-day Iran: Beyond the Persian Rugs. *Datatextil* 32, pp. 2-20. Retrieved September 26, 2020, from: <https://www.raco.cat/index.php/Datatextil/article/view/299535/388981>.
- Sharpee, D. (2008). Indonesian batik and a Swedish technique. *Handwoven*. Volume XXIX, Number 4, pp. 34–36.
- Sullivan, D. (1991). *Summer & Winter*. Loveland, CO: Interweave Press.
- Suvinen, S. (2019). Taqueté with Entered Warp. *Väv*. Number 2, pp. 40-41.
- Tidball, H. (1966). *Summer and winter and other two-tie unit weaves*. Shuttle Craft Monograph 19. Coupeville, WA: Shuttle Craft Books.

- Tidball, H. (1984). *The handloom weaves*. Shuttle Craft Monograph 33. Freeland, WA: HTH Publishers.
- Thomas, (2007). Coptic and Byzantine textiles found in Egypt: Corpora, collections, and scholarly perspectives. In *Egypt in the Byzantine World*, pp. 137-162.
- Tod, O. G. and Del Deo, J. C. (1957). *Designing and Making Handwoven Rugs: Techniques for Creating European, Oriental, and American Rugs, and Household Fabrics*. New York, NY: Dover Publications.
- Verhecken-Lammens, C. (2006). Weft-faced compound tabby with supplementary wefts (taqueté). *Archaeological Textiles Newsletter*. 42, pp. 6–12.
- Verhecken-Lammens, C. (2007). Technology of dated woollen weft-faced compound tabby textiles. In *Methods of dating ancient textiles of the 1st millennium AD from Egypt and neighbouring countries*. Proceedings of the 4th conference of the research group Textiles from the Nile Valley, Antwerp, 16–17 April 2005, A. De Moor and C. Fluck (eds). pp. 194–205.
- Vogelsang-Eastwood, G. (2018). Lecture about Zilu looms, *A World of Looms: Weaving Technology and Textile Arts*, Retrieved September 26, 2020, from: <https://www.youtube.com/watch?v=B9ob85gdC9g>.
- Vogelsang-Eastwood, G. (2018). The taqueté ‘family’ of weaves. Retrieved September 26, 2020, from <https://trc-leiden.nl/trc-digital-exhibition/index.php/out-of-asia/item/193-2-the-taquete-family-of-weaves>.
- von Weisz, (2010). Shaft Switching for Versatile Patterning in Taqueté. *Handwoven*. Volume XXXI, Number 5. pp. 62-65.
- von Weisz, G. (2015). Blue-White in Rug Wool and Rug Linen. *Väv*. Number 1, pp. 40-42.
- von Weisz, G. (2019). Taqueté with the Aid of Shaft-Switching. *Väv*. Number 2, pp. 42-43.
- Wild, J. P. (1987). The Roman horizontal loom. *American Journal of Archaeology*, 91, pp. 459–71.
- Wild, J.P. and Wild, F. (2005). Rome and India: Early Indian cotton textiles from Berenike, Red Sea coast of Egypt. In *Textiles in Indian Ocean Societies*, R. Barnes (ed.), pp. 10–15.
- Wild, J. P. (2006). Berenike: Archaeological textiles in context. In *Textiles in situ: Their find spots in Egypt and neighbouring countries in the 1st millennium CE*, S. Schrenk (ed.), pp. 175–84.
- Wild, J. P. and Dross-Krupe, K. (2017). *Ars Polymita, Ars Plumaria: The Weaving Terminology of Taqueté and Tapestry*. In *Textile Terminologies from the Orient to the Mediterranean and Europe, 1000 BC to 1000 AD*, S. Gaspa, C. Michel, and M. Bech Nosch (eds), pp. 301–20.
- Wilson, L. M. (1933). Wilson, L. 1933. *Ancient Textiles from Egypt in The University of Michigan Collection*. University of Michigan Studies, Humanistic Series, vol. 31. Ann Arbor: University of Michigan Press.
- Żuchowska, M. (2015). Grape picking silk from Palmyra: A Han Dynasty Chinese Textile with a Hellenistic Decoration Motif. *Światowit. Annual of the Institute of Archaeology of the University of Warsaw*. Vol. II (LIII), pp. 143-161.

---

<sup>1</sup>Retrieved September 26, 2020 from:

<https://www.carmentis.be/eMP/eMuseumPlus?service=ExternalInterface&module=collection&objectId=168571&viewType=detailView>

<sup>2</sup>See also retrieved September 26, 2020, from: [https://www.arkubid.uni-bonn.de/textile/textile\\_show\\_pdf.php?textile\\_id=331](https://www.arkubid.uni-bonn.de/textile/textile_show_pdf.php?textile_id=331)

<sup>3</sup>Retrieved September 26, 2020, from: [http://c14.kikirpa.be/display\\_record.php?id=KIK-%203533](http://c14.kikirpa.be/display_record.php?id=KIK-%203533)

<sup>4</sup>Retrieved September 26, 2020, from: <http://collections.vam.ac.uk/item/O141460/textile-fragment-unknown/>

<sup>5</sup> Illustration from De Jonghe (2006)

<sup>6</sup>Retrieved September 26, 2020, from: <http://collections.vam.ac.uk/item/O262502/fragment-unknown/>

<sup>7</sup>Retrieved September 26, 2020, from: <http://collections.vam.ac.uk/item/O258323/textile-fragment-unknown/>

<sup>8</sup>Retrieved September 26, 2020, from: <https://collections.tepapa.govt.nz/object/568538>

<sup>9</sup>Thomas (2006)