



Acta Archaeologica Lodziensia Nr 50/1

# PRICELESS INVENTION OF HUMANITY - TEXTILES



NESAT VIII

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## Written Patterns in Early Tablet Weaving

Tablet weaving is a band-weaving technique where the weaving equipment consists of small square plates with a hole in each corner. The history of this band-weaving technique is special because the tablet-weaving techniques of the iron age, Viking age and the Middle Ages respectively were much more developed than those of today. The weavers of these periods often employed a very thin thread and very complicated weaving methods, a fact that makes many weavers of today wonder how our ancestry were able to produce their tablet-woven bands.

For twenty years now I have applied myself to understanding the techniques of tablet weaving, analyzing archaeological findings of tablet-woven materials and weaving copies of ancient tablet-woven bands. I first started out working with the technique at Egon Hansen's workshop for textile reconstruction at the Moesgård Museum, Denmark. For a period of several months I worked eight hours a day tablet weaving, and this experience I think has enabled me to better understand the old technique whenever I face a new find of an unknown weaving method.

Shortly before his death in 1989, Egon Hansen visited Schloss Gottorp where he analyzed a tablet-woven band, found in Plessenstrasse, Schleswig, Northern Germany. In a short paragraph in his book published in 1990 he points out that the band from Plessenstrasse is encumbered with weaving defects of a kind that is a result of weaving after a recipe [Hansen, 1990: 63]. I found it would be obvious to discuss this observation and try to establish it.

### Weaving Defects

In the following I am going to take a look specifically at different archaeological finds of tablet-woven bands from the Roman iron age to the Middle Ages and to take into consideration the impact of these defects on our knowledge of how these bands were woven. How did weavers remember the recipes? Did they have patterns

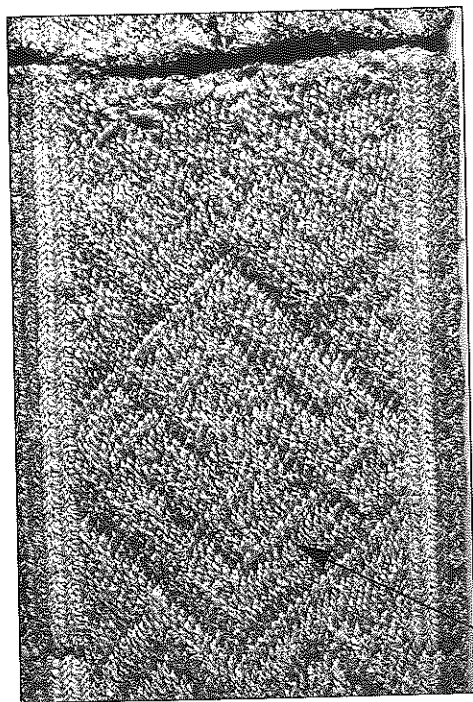
on wood, did they memorize them or did they have written recipes more or less like the ones we have today?

### Observation Defects

Fig. 1a shows a band that was found at Snartemo, Western Norway, in a chieftain's grave from A.D. 500 and which probably served as a bandoleer for a sword or a border of a caftan. The patterns of the band display various geometrical figures. A closer examination of one figure in particular in the pattern reveals that one line has been omitted in the otherwise regular swastika. This kind of textural defect occurs because the weaver has got the pattern wrong while weaving the band. The defect only occurs in the single line that breaks into a wrong direction. The remaining parts of the pattern around the defect have been unaffected.

A similar type of defect occurs in a medieval pattern-woven ribbon from Uvdal, Norway, another case of an irregular pattern in a tablet woven band (Fig. 1b). Seemingly the weaver has had a bit of a trouble managing the complicated interlacing patterns. This is another example of a single-line defect in an otherwise regular pattern. This particular type of defects I shall refer to as "*observation defects*". At one point during the procedure the weaver must have made a wrong observation. The weaver may have been comparing the pattern of the band with a carved-in wooden pattern or a pattern in some other material, but the pattern, anyhow, must have been designed during the actual weaving.

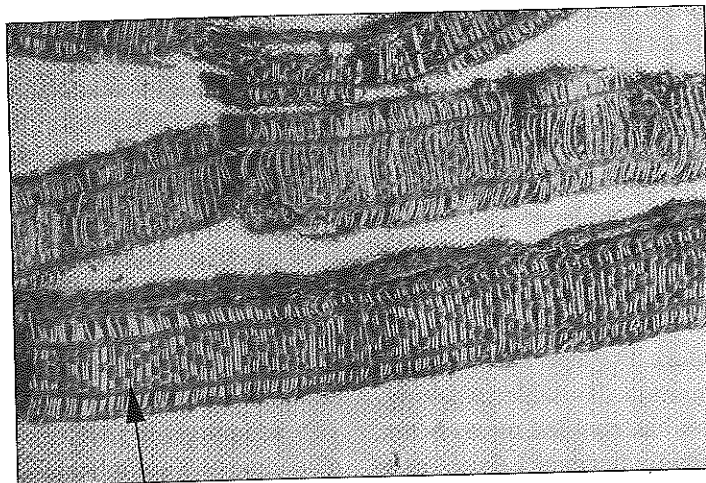
Another example of "observation defects" is band no. 977 from Birka, a viking burial place in Sweden (Fig. 1c). The warp threads are silk and the wefts solid silver and yet it is another instance of how the weaver has got it wrong while weaving the band so that the pattern has turned out more irregular than intended. The motif has not been mirrored by the weaver quite the way it was originally intended. This is a defect typical of weavers getting the pattern wrong while weaving. Agnes Geijer several times point out the irregularity of the pattern of some of the Birka bands [Geijer



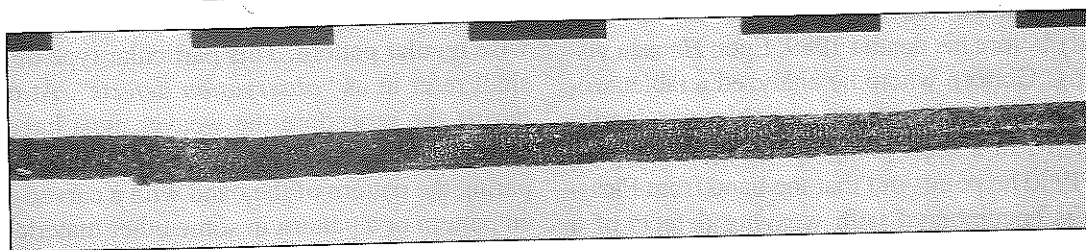
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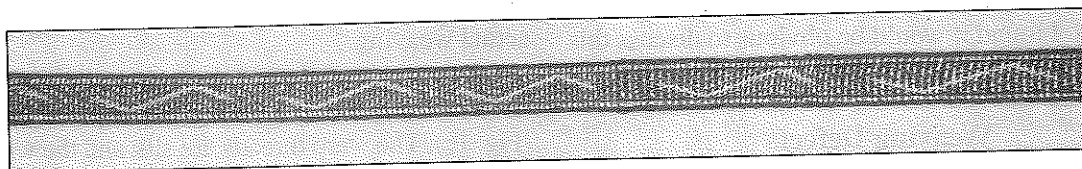
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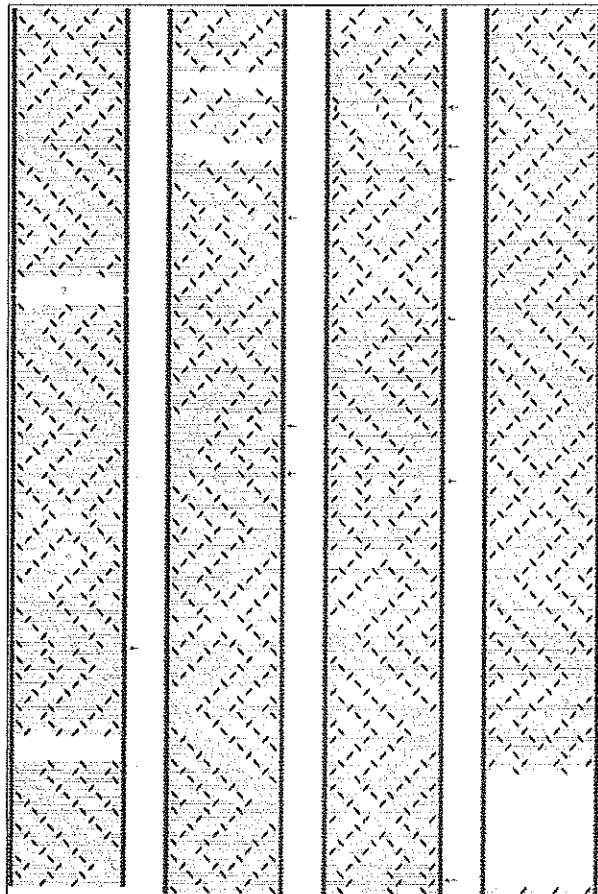


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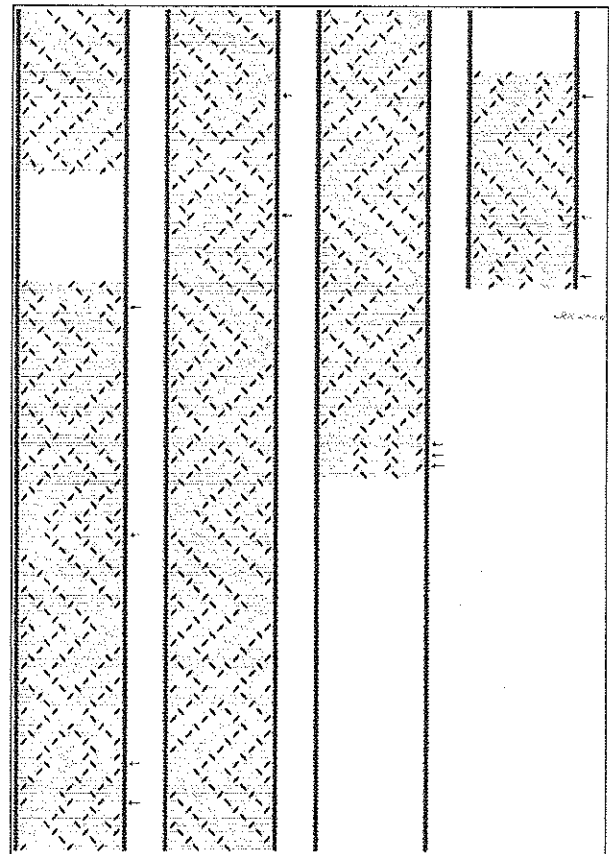


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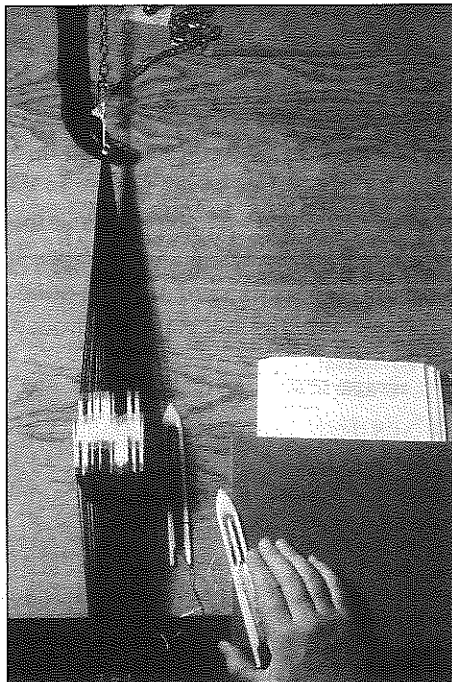
Fig. 1. a – A tablet-woven band found at Snartemo, Western Norway, dating back to about A.D. 500 (*Oldsaksamlingen C 26001z*). The regularity of the pattern of the swastika is broken because of a defect: one leg is irregular; b – A medieval tablet-woven ribbon from Uvdal Stave Church, Buskerud, Norway (*Oldsaksamlingen C 34866/326*). Several irregularities can be found in these otherwise regular interlacing patterns; c – Tablet-woven brocade bands of the viking age from Birka, Sweden (*Statens Historiska Museet Bj.977*). At the bottom of the band to the right are two motifs of combs that ought to have been laterally reversed according to the overall geometry of the band. However, the reflection has only come off partly and the lowest comb has turned out a bit undersized and distorted; d – A tablet-woven band from Plessenstrasse, Schleswig, belonging to the museum at Schloss Gottorp. The material is silk with a brocade weft of gold threads; e – A reconstruction of the band from Plessenstrasse. All the defects have been corrected in order to make the simple white S-motif of the pattern stand out more clearly on red and gold.



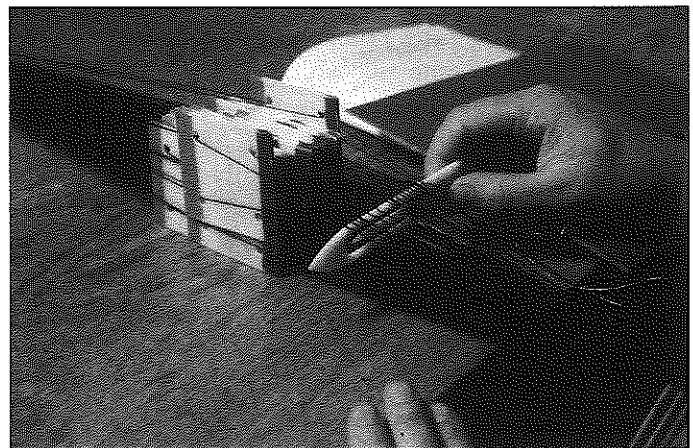
a



b



c



d

Fig. 2. a-b – A sketch of the pattern of one of the fragments from Plessenstrasse (a). Weaving defects recurs 20 times in the regular and simple pattern and breaks it crosswise. Seemingly the weaver has used a pattern for weaving the band, but has only cursorily been checking whether lines in the pattern were in accordance with the instructions of the pattern; c – The weaving of brocade band according to Egon Hansen's method. The tablets have been dyed red on one side and blue on the other. According to the pattern the weaver must push the tablets under which the gold thread is to be passed towards herself or himself. Notice the appearance of the tablets which are seen from above; if a hand is placed on the lower part of the tablets there is a combination of short lines and long lines; d – The weaver presses down the threads with her or his left hand in order to make it easy to pass the shuttle with the gold thread under the warp threads, which will make up the pattern.

1938: 84-86]. Also Frances Pritchard has noticed several weaving defects in tablet woven brocade bands from Dublin [Pritchard 1988: 152]. Especially band B page 153 have very close resemblance to the band from Plessenstrasse (see below).

It may with some justice be questioned how I know for certain that this is not an intended part of the design but a defect. However, it is evident when an otherwise predictable and regular design of a pattern is abruptly broken. Besides my theory is based on practical experience with craftsmanslike procedures. In weaving you tend to make small mistakes, so when I come across this kind of defect, I know that only sloppiness, indolence, or lack of time on behalf of the weaver can explain why defects have not been corrected. Or the weaver may not have discovered the defect until the weaving has progressed too far and undoing all of it would be too heavy a task. Undoing a tablet-woven band is, indeed, rather difficult.

### Pattern Defects

In the following I am going to deal with another kind of weaving defects which occur when a weaver misreads the recipe so that the pattern is broken across the band. These defects I shall refer to as "*pattern defects*".

Fig. 1d shows the tablet-woven band found in Plessenstrasse, Schleswig, Northern Germany [Plessenstr. 83/3 nos 80 a and 80 b]. Two well-preserved fragments of the same band were found. The width of the band is 8 cm and one fragment is 43 cm long (a), the other 22 cm long (b). Probably the band was woven from red and white silk with a brocade weft of thin gold tinsel. The a-fragment is in a real good state of preservation, flexible and with only a few threads of the gold brocade missing. Originally the b-fragment may also have been very well-preserved, however, most of the brocaded gold thread is gone owing to incautious cleaning. Consequently only an analysis in the case of the a-fragment has been possible.

The a-fragment consists of silk in two colours, which today are mainly medium brown and beige respectively, though shades of red mingle with the medium brown here and there and the beige in some places is white-tinted. The threads consist of thin, smooth, lightly twisted fibres, so presumably they are silk threads. In tablet weaving, silk is the only fabric made of thin, lightly twisted threads that is strong enough for warping. So most likely the original colours of the band were white and red. The band dates back to sometime between the eleventh and thirteenth centuries. A reconstruction has been made to make the motif stand out more clearly (Fig. 1e). It is a simple S-motif, white on red, repeated all along the band. On a closer analysis of fragment from Plessenstrasse

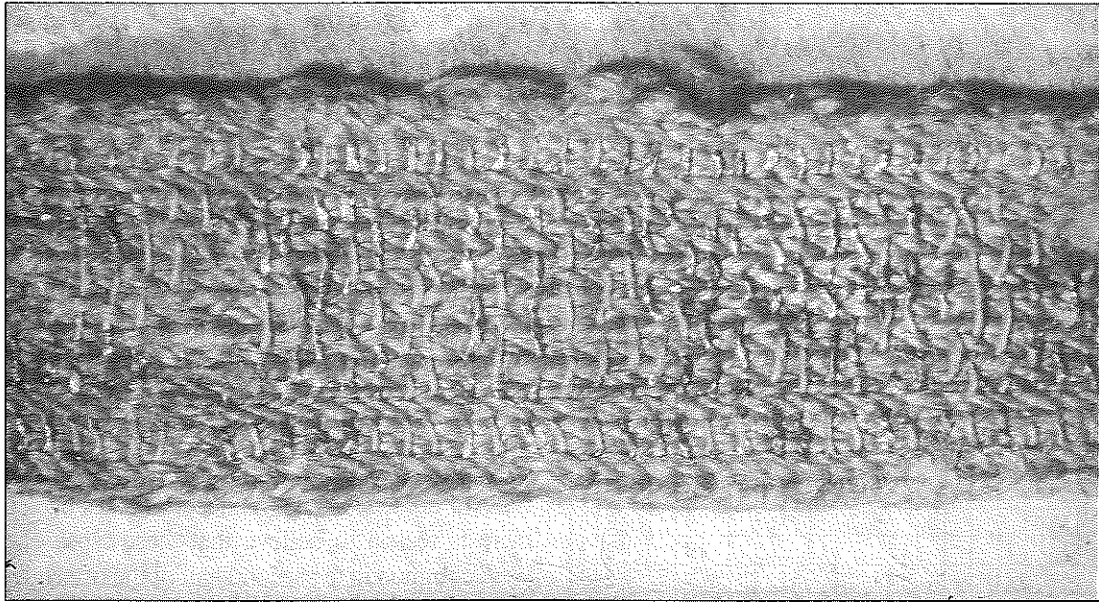
many weaving defects are revealed (Fig. 2a-b). These defects are typical, not only because of a wrong line in the pattern, but also because the pattern is clearly broken across the entire band at a particular weft. This type of defect only occurs in cases where the weaver does not look at the band while she or he is weaving. It is quite identical to those defects that occur when you weave after a written pattern but miss a line in it and fail to check whether the band is correctly woven. The same defect recurs in 20 places on the 43 cm of the a-fragment, because the weaver has got a line wrong. Though not recurring at regular intervals, a pattern of 2 woven lines are repeated incorrectly and several times the weaver has skipped one or two lines.

### Weaving using a Pattern

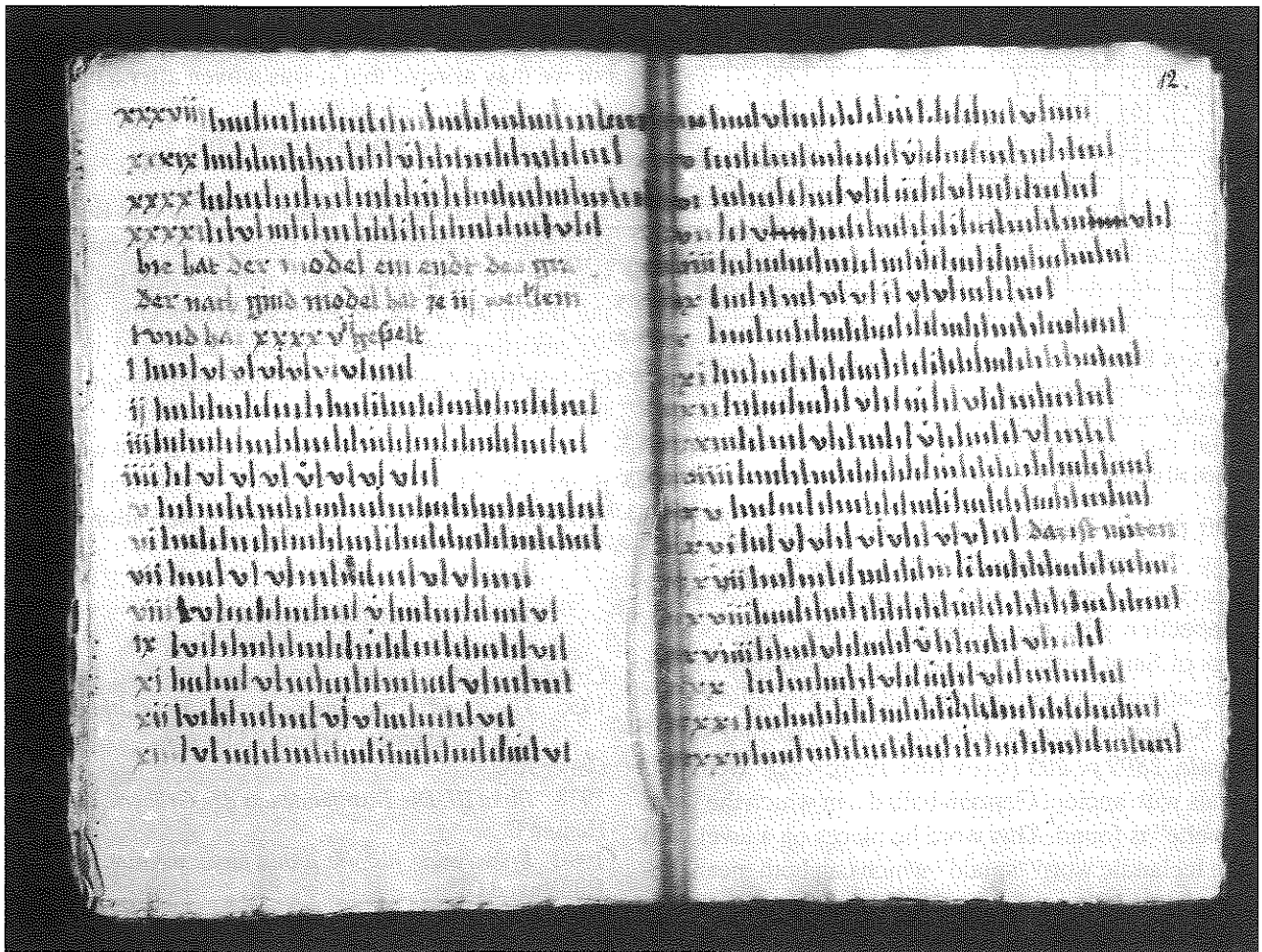
When I am weaving a copy of a brocade band, I use a recipe that shows where to pass the brocade weft over the silk warp thread (Fig. 3). The tablets with warp threads under which the gold thread must be passed are pushed forward. Then the warp threads are lifted and the shuttle with gold thread is passed under those warp threads which are marked (Fig. 2c, d). Fig. 3 shows the recipe for the pattern from Plessenstrasse, but without any of the original defects. It is obvious that a defect that breaks the pattern across the band will occur if you get a line in the recipe wrong. Defects of this kind are found all over the band from Plessenstrasse (Fig. 2a, b, 3, 4a). E.g. it is obvious that the weaver has got it wrong twice in quick succession and has gone back to the previous line in the recipe instead of proceeding to the next one. Weavers may not always have had written recipes at their disposal. It is indeed possible that the recipes for the patterns were put into some kind of verse or song and memorized, however, I think it is highly probable that some kind of written recipe existed.

### Anna Neupers Manuscript from 1517

At the Herzog-August Library in Wolfbüttel, Germany, a pattern book can be found that dates back to 1517 (Cod. Guelf. 57 Aug.80) (Fig. 4b). It is a manuscript of 82 pages from the Claren Convent in Nuremberg. Among other things the authoress, Sister Anna Neuper, writes, "Diss her noch geschriben model gehoren all zu gulden porten die man durch die gespelt wurckt" (the patterns described here all belong to gold borders, made by use of "Gespelt"). The weaving method employed here is termed "Gespelt" in the manuscript. Leonie von Wilkens, the author of a short article on Anna Neupers manuscript (1967), believes that it deals with bands woven on a loom and that the term "Gespelt" presumably refers to "Schüsse" (i.e.



a



b

Fig. 4. a – A close-up of the Tablet woven band (a) from Plessenstrasse. The thread is a very thin gold tinsel that does not cover the bottom face of the band, which is quite unusual. *Photo courtesy Heidemarie Farke, Schloss Gottorp*; b – Page 12 in Anna Neuperin’s book of instructions in how to weave gold ribbons (The Herzog-August Library in Wolfsburg, Germany, dating back to 1517). These recipes are probably for making tablet-woven brocade bands. Farthest to the left a roman numeral indicates the number of the west threads, followed by a combination of short lines and long lines. The gold thread is to be passed under the long lines and over the short lines respectively, each line corresponding to a tablet. In some places, 5 short lines are indicated by a numeral, “V”. The dots indicate that the middle of the band has been reached. One of the words on the upper part of the left page is “gespelt”, which probably means “tablet”.

1	2		5	6			0			4			8	9		2	3	
1	2		5				9			5			9			2	3	
1	2		5			8			2			6		9		2	3	
1	2		5	7				1	3			7		9		2	3	
1	2		5	6			0			4			8	9		2	3	
1	2		5				9		2		5			9		2	3	
1	2		5			8			1		4			8	9		2	3
1	2		5	7			0		3				7	9		2	3	
1	2		5	6			9		2			6		9		2	3	
1	2		5			8			1			5		9		2	3	
1	2		5	7			0			4			8	9		2	3	
1	2		5	6			9		3			7		9		2	3	
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1	2		5	6			0			4			8	9		2	3	
1	2		5	7				1	3			7		9		2	3	
1	2		5				8			2			6	9		2	3	
1	2		5				9				5			9		2	3	

Fig. 3. A Pattern for making tablet-woven brocade band. Each series of numbers corresponds to a brocade weft and the thread of the tablet numbers mentioned in the pattern is put over the gold thread. Both plain weft and brocade weft must be put in, after which all tablets must be gathered and twisted in the same direction.

weft threads [Wilkens 1967: 27]). I believe that the term "Gespelt" refers to either "tablets" or "tablet weaving", a concept also suggested by Crowfoot, in connection with the publication of the tablet weavings of Saint Cuthbert's grave in Durham, where she calls attention to the article "Die spelte und die drihe" by K. Weinhold from *Zeitschr. Des Veriens für Volkskunde*, 1899 p. 205 [Crowfoot 1956: 452]. Weinhold deals with ancient German ballads, in which the word "spelte" is found. This word he places on a level with the Icelandic word "spjald" which can both mean tablet and tablet weaving in English. In "Ordbog til det Ældre Danske Sprog (1300-1700)", IV, p. 67 is the word "Spelte" mentioned in relationship with "Spjæld" and handweaving and in "Ordbog over det Danske Sprog, XXI p. 25 is "spelte" mentioned in relationship with something made of chopped wood. So it is only natural to assume that the meaning of the two words "spelte" and "gespelt" is the same. This assumption is further enhanced by the fact that Anna Neupers patterns are hardly distinguishable from a tablet loom seen from above, where the tablets under

which the gold thread must be passed, have been pushed forward.

Leonie von Wilkens has drawn 3 of the many patterns in Anna Neupers book [Wilkens 1967: 28] and it is amazing what close resemblance one finds between the patterns of Anne Neupers book and patterns of bands from Dublin. Especially band E172:10679, fig. 1D [Pritchard 1988: 154] and the pattern from page 9r-10r in the manuscript [Wilkens 1967: 28 fig. 3].

When she wrote her book, Anna Neuper was about 70, and in it she informs her fellow sisters that her eyesight is no longer very good and that she would have been more able in her younger days, which is why they will have to excuse her for any possible finds of defects. As the manuscript dates back to 1517, there is reason to believe that these types of patterns were common in the second half of the fifteenth century.

We do not know whether the band from Plessenstrasse was produced in the northern part of Germany or whether it has been imported from somewhere else, but we may assume that it was woven after a pattern.

### Acknowledgements

I am indebted to Dr Ingrid Ulbricht and Restorer Heidemarie Farke, Schloss Gottorp, for permission to analyze the band from Plessenstrasse and for assisting me in my work; to Professor Hans Otto Nielsen for assisting me in locating the band and to Mrs. Gudrun Hildebrand for letting me read her article on the band before she published it.

A slightly different version of this article was first printed in "Håndværk I 2000 år", The Royal Danish Academy of Fine Arts, School of Conservation, 2000.

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WRITTEN PATTERNS IN EARLY TABLET WEAVING

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