

# Damask: An Analysis of Definitions

© Pikes Peak Weavers Guild, 2004

*Earlier versions of this article were printed in the CW Damask Study Group Newsletter (#15, Winter, 2001) and in the September, 2004 issue (#76) of the Complex Weavers Journal*

Sandra S. Hutton

In the August, 1998 issue of the *Complex Weavers Damask Study Group Newsletter*, the “What is damask?” question was posed by Noeline Barkla (p. 5) and discussion of the question was encouraged by Anita Heist (p. 6). Doramay Keasbey gave a qualified response in the November, 1998 issue, “...some parameters seem needed so we know when we’re approaching limits or expanding beyond them...” (p. 12). Evelyn Oldroyd (Summer/Fall, 2000, p.1) reported that some sources included three-shaft turned twill as a weave structure suitable to form damask and again asked the “What is damask?” question.

Keasbey led a seminar titled “Damask – Pushing the Limits” at the 2000 Complex Weavers Conference. Keasbey shared with me a copy of a handout of definitions she had isolated and provided to participants in the seminar. The handout consisted of two pages of published definitions by 14 authorities defining what damask is (See Appendix A). Keasbey developed the handout to stimulate discussion among seminar participants. At no time does Keasbey state it is a definitive list of definitions, nor is it a “random sample” of 20<sup>th</sup> century English language definitions. Outstanding authorities could be missing. Some may be included to illustrate extremes or hasty conclusions that should not be taken too seriously. Important additional statements by the authors in the same article or book might provide further insight. Given these qualifications, the list does provide definitions made by a number of persons who are frequently cited as 20<sup>th</sup> century “authorities” in the textiles field. Keasbey is particularly well qualified to isolate authorities on damask for several reasons including her master’s level work on damask for the Handweavers Guild of

America Certificate of Excellence and her extensive publication career on many weave structures and topics.

The Pikes Peak Weavers Guild More Than Four Study Group (PPWG >4) chose damask as its study topic for the 2000/01 year and we discovered we needed to set parameters for our own study. We agreed that damask is a name given to a fabric and that it is not a weave structure. The PPWG >4 also accepted that there are three basic weave structures (plain, twill, and satin) each of which has assorted derivations. Setting other limits was less easily accomplished and required more discussion. I decided the list of definitions isolated by Keasbey provided appropriate statements to analyze and could give us guidance in setting parameters and limits. I developed a simple content analysis form to use while analyzing the 14 quotations. The results reported here are limited to analysis of the 14 statements only. Surrounding text was not reviewed except in two instances (Sunday, 1999 and Becker, 1987) but information from the surrounding text was not included in the content analysis. These results are intended to provide readers with generalizations about damask which could be derived from the 14 statements. Some questions were more easily answered than others. Some questions need further study, but there were several characteristics of damask which could be generally agreed to by Keasbey’s group of authorities.

Of particular interest to the PPWG >4 were the questions: (1) What is damask? (2) Is satin the only weave structure which can result in damask? and, (3) Must pattern and background be reverses of the same weave structure (i.e., if 1/4 satin is used for pattern, must 4/1 satin be used for the background)? Several other definitions or qualifications were also analyzed to satisfy my own curiosity. Questions posed below formed the basis of the content analysis.

---

*Acknowledgment:* Appreciation is expressed to Diane Fabeck and Doramay Keasbey for reviewing earlier versions of this paper.

## Is Damask Formed by a Simple Weave Structure?

All authorities stated or implied damask is composed of one set of warp threads and one set of weft threads, so it can be concluded:

*Damask is a fabric formed by a simple weave structure composed of one set of warp threads and one set of weft threads.*

## Does Loom Type Matter?

Only two authorities (Johansson and Webster's 3<sup>rd</sup> Dictionary) indicated the need for individual control of threads or units of threads in order to weave damask. The other 12 did not specify loom characteristics. This would imply:

*Damask may be woven on single-harness looms, on double-harness looms with pattern shafts, on double-harness looms with unit (figure) control, on Jacquard looms, or on other loom configurations.*

Looms evolved differently in different geographic regions and it's possible that the types of looms used in Northern Europe as opposed to those used in Persia and the Far East might be influencing Johansson's definition requiring a unit draw rather than pattern shafts to form damask. Northern Europeans had looms with treadled pattern shafts which led to the distinction of "dräll" patterns vs unit draws (See Hilts, 1999 for a discussion of European treadle looms with over 30 shafts).

## How is Pattern Formed?

Twelve of the authorities indicated that damask was characterized by differing reflection of light based on weave structure and the other two did not comment, so I think we can safely state:

*Pattern in damask fabric is created by differing reflection of light due to weave structure(s).*

## Is Damask Always Monochromatic?

Only Geijer stated that damask was monochromatic, and only the Oxford English Dictionary stated that damask could be

polychromatic. The other 12 authorities did not comment on color implying that color is not an important issue in the definition of damask. I think we can conclude:

*Damask may be made using one or more colors.*

Given statements or implications by all 14 authorities regarding reflection of light, however, it was clear that all of them thought damask was formed by contrasts in texture rather than color. Emery states, "Often, for example, it (the definition of damask) is meant to indicate nothing more than that a fabric is patterned by variations of texture rather than color" (p. 112).

## Must it be Satin Weave?

Now we turn to what I thought would be more controversial; statements regarding weave structure to form damask. I found a surprising amount of consensus depending upon background of the authority. Using the statement: "Damask is limited to the satin structure" ("yes", "no", or "no comment"), I found that Zielinski, Tidball, and Larson & Weeks, stated or implied that damask must use the satin structure. Further, only Tidball and Zielinski stated or implied that **only** the satin structure could be used. Larson & Weeks said satin was often used in combination with other weave structures by stating, "Dense stripes of satin weave may also be combined with sheer plain weave" (Page 85) but Larson & Weeks do seem to imply that at least some satin structure must be used if the fabric is to be called damask. Surprisingly, nine of the authorities said or implied that damask was **not** limited to a satin structure and two (C.I.E.T.A. and Johansson) did not specify a particular weave structure. Given these findings, I think it can safely be generalized:

*Damask may be formed by weave structures other than satin.*

A great deal of credit must be given to both Zielinski and Tidball for their roles in popularizing handweaving in North America in the middle of the 20<sup>th</sup> century. On the other hand, Sondag, Becker, Emery, Geijer, Burnham, and members of C.I.E.T.A. have distinctly different credentials and experiences from those of Tidball and Zielinski when it comes to

the study of similarities and differences among weave structure and fabrics. I was struck by the breadth and flexibility of the definitions of damask provided by these textile scholars.

Jim Ahrens was highly respected among members of Complex Weavers as being knowledgeable about damask so I reviewed some of his statements in the *Complex Weavers Newsletters*. In several places Ahrens states several weave structures in addition to satin qualify to form damask, and the following quotation is representative of his position:

Damask fabrics are formed by combining warp faced and weft faced areas. Some of the oldest examples used three harness twills. A four harness broken twill is useful. The five harness satin was used a great deal in the past. (1992, pp 6 & 10).

One can conclude from statements made by these authorities that the term “false damask” is meaningless.

### **Can Damask Have More Than One Weave Structure?**

There was less consensus with the statement, “A damask fabric must be composed of two faces of the same weave structure.” Six authorities (Sunday, Becker, Emery, Zielinski, Tidball, and van der Hoogt) stated or implied in the definitions analyzed that damask must be made using two faces of the same structure while six others (Websters Dictionary, C.I.E.T.A., Burnham, Geijer, Grosicki, and Larson & Weeks) said more than one weave structure could be employed to create pattern in a damask fabric. The other two sources did not indicate an opinion. Given such a lack of unanimity among these 14 sources, we might feel a need to hedge on a generalization regarding whether or not only one weave structure may be used to form a particular damask fabric. However, examples in the Victoria and Albert Museum (Rothstein, 1994a, Rothstein, 1994b) provide evidence that more than one weave structure and/or binding system can be used to form damask. In fact, Becker (1987) titles a section in his book, “Damask with twill 1 / 2 and 5 / 1.” (p. 243)

Weave structures may be identified by how warp or weft yarns “bind” yarns running perpendicular to them. Derivations of the three basic weave structures can be distinguished by the order and placement of “binding” yarns and several of the 14 authorities remarked on “binding systems” in damask. C.I.E.T.A. states, “By extension, two distinct binding systems may also be employed.” From Burnham, “By extension this term is also used for weaves in which two distinct binding systems are employed.” Becker states, “...both sides of an unequal-sided binding are used on the same side of the textile.” Further, from Geijer, “...two different binding systems may also be employed.” These statements seem to imply that different weave structures, or different binding systems of the same structure (1 / 2 vs. 5 / 1 twill or some combination of bindings of satin), are commonly used in damask. Supplementary wefts might be added to the structure to provide additional pattern (such as some of the 18<sup>th</sup> and 19<sup>th</sup> century brocaded damasks).

### **Must PPI and EPI be Equal?**

Sunday and Grosicki disagreed with Tidball regarding the necessity of a balanced weave in damask. Tidball was emphatic that the number of picks must equal the number of ends per inch in damask. Regarding his definition of damask, Sunday states, “Such a definition does not...specify if the warp and weft count of the fabric is balanced or has a warp count that is significantly higher than that of the weft ( p. 113). Grosicki goes further with, “The best linen damasks are woven with about 50 per cent more picks than ends per inch...” (p. 324).

### **Where is the Study of Damask Headed?**

Innovations in the damask literature report fabrics being woven with a point or straight twill threading on single-harness looms with greater numbers of shafts (multishaft looms) controlled by a computer interface. These drafts use twill and satin tie-ups or peg plans to achieve warp and weft faced bindings. With increased numbers of drawlooms being used in the US and with many handweavers throughout the world working with up to 40 shaft computer interfaced and Jacquard looms, we probably have a renaissance underway in damask weaving. Textiles

illustrated by Rothstein (1994a, 1994b) provide challenges for contemporary damask weavers.

### How do we Know What we Know?

The hand weaving literature is characterized by a great deal of ambiguity when it comes to definitions and terms and we need to be careful that we don't automatically assume statements made by "authorities" to be correct. Included in the Summer/Fall, 2000 newsletter is a quote from an internet source echoing the definition Keasbey included from the 1966 *Webster's International Dictionary*. The internet source states:

Damask is woven on a Jacquard loom, the satin field being produced by floats of warp that pass over from two to seven and in some instances nine fillings. The design is a plain or taffeta weave, the warp and filling being at right angles that create less lustre than the satin areas. (page 6)

This statement notes that three shaft twill can form damask, but the definition is suspect because it states "plain" or "taffeta" weave (which are the same weave structure) forms one of the two reflective surfaces. It is also suspect with the implication that the satin "field" does not have warp and filling at right angles to each other, but the "plain" weave does. Some people might look at the weft faced side of satin and think it is plain weave, when it is not.

### Conclusions from a Study Group of One Guild

What parameters did the PPWG >4 decide to accept? We generally demonstrate flexibility in any activity we pursue, so for our study we decided to accept as damask any fabric which:

1. Has two or more reflective qualities or blocks on the same face
2. Is woven by any weave structure using three or more shafts to create one of the reflective effects
3. Has one or more colors
4. Uses the same or different weave structures and/or binding system resulting in different textures on the same face
5. Has balanced or unbalanced ppi to epi

6. Is woven on multishaft single-harness or double-harness looms with either pattern shaft or unit draw or any other loom configuration.

### Sources of Definitions used in Keasbey's Handout:

- Becker, J. (1987). *Pattern & Loom*. p. 207.
- Burnham, D.K. (1980) *Warp & Weft: A Dictionary of Textile Terms*. p. 32
- C.I.E.T.A. (1964). *Vocabulary of Technical Terms*. p. 11.
- Emery, I. (1966). *The Primary Structures of Fabrics*. p. 112
- Geijer, A. (1982). *A History of Textile Art*. p. 56.
- Grosicki, Z.J. (1975). *Watson's Textile Design and Colour*. p. 324.
- Johansson, L. (1984). *Damask and Opphämta*. p. 9.
- Larson, J.L. & Weeks, J. (1975). *Fabrics for Interiors*. p. 85.
- Oxford English Dictionary, Compact Edition*, (1979).
- Sonday, M. (1999). Damask: Definition & technique. In *Riggisberger Berichte: Leinendamaste*. p. 113.
- Tidball, H. (1962). *Contemporary Satins*. p. 12.
- van der Hoogt, M. (1993) *The Complete Book of Drafting for Handweavers*. p. 68.
- Webster's Third New International Dictionary*. (1966).
- Zielinski, S.A. (1959). *Encyclopaedia of Hand-Weaving*. p. 38.

### References:

- Ahrens, J. (1992, January). The damask loom: Part III. *Complex Weavers Newsletter* #38, 3-6+.
- Becker, J. (1987). *Pattern and Loom*. Copenhagen: Rhodos.
- Hilts, P. (1999, December). The weaver's art in transition. *Ars Textrina*. 32. 10-12.
- Rothstein, N. (1994a) *The Victoria and Albert Museum's Textile Collection: Woven Textile Design in Britain from 1750 to 1850*. London: Victoria and Albert.
- Rothstein, N. (1994b) *The Victoria and Albert eum's Textile Collection: Woven Textile Design in Britain to 1750*. London: Victoria and Albert.
- Sonday, M. (1999). Damask: Definition and Technique. In *Leinendamaste: Produktionszentren und Sammlungen. Riggisberger Bericht. #7*, 113-130.

## Appendix A

### **“Damask – Pushing the Limits” Definitions from a handout used in a seminar led by Doramay Keasbey Complex Weavers Seminars, 2000**

Damask: A firm lustrous fabric made with flat conventional patterns in satin weave on a plain-woven ground on the right side and a plain-woven pattern on a satin ground on the reverse side, made on jacquard looms usually of linen, cotton, silk, rayon, or combinations of these fibers, and used for household linen, interior decoration, and clothing.

*Webster's Third New International Dictionary* (1996)

(a) A rich silk fabric woven with elaborate designs and figures, often of a variety of colours. (b) A twilled linen fabric richly figured in the weaving with designs which show up by opposite reflexions of light from the surface; used chiefly for table linen.

*The compact Edition of the Oxford English Dictionary* (1979)

Damask: Figured textile with one warp and one weft in which the pattern is formed by a contrast of binding systems. In its classic form, it is reversible, and the contrast is produced by the use of the warp and weft faces of the same weave. By extension, two distinct binding systems may also be employed.

*C.I.E.T.A. Vocabulary of Technical Terms* (1964)

Damask: A self-patterned weave with one warp and one weft in which the pattern is formed by a contrast of binding systems. In its classic form it is reversible, and the contrast is produced by the use of the warp and weft faces of the same weave, usually satin. By extension this term is also used for weaves in which two distinct binding systems are employed.

*Warp & Weft: A Dictionary of Textile Terms* (1980) by Dorothy K. Burnham, p. 32.

*Damask* is a self-patterned weave which, like the Swedish dräll (twill or damask diaper), is based on interchanging areas of warp and weft emphasis. The patterning in damask is, however, freer and richer than the geometrical figures in dräll.

*Damask and Opphämta* (1984) by Lillemore Johansson, p. 9.

Damask is defined today as a simple weave – that is, a weave having one set of warps and one set of wefts. Pattern is achieved by juxtaposing the two faces of the same weave, such as the warp-float and weft-float faces of a 4-unit twill with an interlacing sequence of over three, under one; or the warp-float and weft-float faces of a 5-unit satin with an interlacing sequence of over four, under one. Such a definition does not take into consideration materials and diameters of threads. Nor does it specify if the warp and weft count of the fabric is balanced or has a warp count that is significantly higher than that of the weft.

“Damask: Definition and Technique” by Milton Sondag in *Riggisberger Berichte: Leindamaste* (1999), p. 113.

A damask woven textile, be it a piece of silk or a linen tablecloth, is characterized by its change between dull and shining surfaces... This typical alternation from dull to shining surfaces appears because both sides of an unequal-sided binding are used on the same side of the textile. A binding, for instance twill 1/3 or a satin, is called unequal-sided if on one side the warp predominates and on the opposite side the weft predominates... Technically the unequal-sided weave used in a particular piece of damask is called the *basic weave*. Satin weaves give the best result but in the early centuries the satin weave was not known and twill 1/3 was used.

*Pattern and Loom* (1987) by John Becker, p. 207.

More or less elaborate patterning produced by ‘turning’ or ‘reversing’ a weave structure (i.e. using both aspects of the weave on the same face of the fabric) is characteristic of *damask weaving*. Although the weave may be an *uneven twill* and the patterned fabric referred to as *twill damask*, the word *damask* is more commonly associated with fabrics patterned by the dissimilar faces of *satins weave*. In fact, it is often assumed that, as a technical term, *damask* refers to *satins damask* unless the use of some other weave is specified; whereas actually the term is quite commonly used with various other connotations. Often, for example, it is meant to indicate nothing more than that a fabric is patterned by variations of texture rather than color.

*The Primary Structures of Fabrics* (1966) by Irene Emery, p. 112.

Damask: A true damask (the same word in most languages) is a monochrome figured textile with one warp and one weft forming satin. The pattern is produced by reversing the binding so as to contrast the warp and weft faces of the same weave, thus showing different degrees of gloss. In its classical form, damask is reversible. Satin may be replaced by twill and, two different binding systems may also be employed. The name derives from the Syrian capital Damascus, an important centre of the silk trade and silk production.

*A History of Textile Art* (1982) by Agnes Geijer, p. 56.

DAMASK WEAVE (fr. *Damascus* in Syria). Damask weave is based on the same principle as all Turned Twills but the ground weave is satin, usually 1:4 since higher ratios require too many shafts. The blocks of pattern are obtained by reversing the ratio between weft and warp. As the simplest satin requires 5 shafts, a four-block damask calls for 20 shafts. For this reason Damasks are often woven with the Two-Harness Method.

*Encyclopaedia of Hand-Weaving* (1959) by S.A. Zielinski, p. 38.

Damask: Originally a silk fabric (made in Damascus) with a weft sateen figure on a warp satin, or twill, or plain ground. The cloth is now extensively used for household purposes, and is made in cotton, rayon, and linen yarns with the figure and ground in opposite sateen weavers; the figure usually being in weft sateen and the ground in warp satin... The weaves generally used are the 5- and 8-thread sateens, and the terms single and double damask are sometimes used in order to distinguish linen fabrics made in the respective weaves. The best linen damasks are woven with about 50 per cent more picks than ends per inch, and properly the term double damask should only be used for 8-thread sateen cloths which contain such an excess of picks over ends.

*Watson's Textile Design and Colour* (1975) by Z. Grosicki, p. 324.

Damask is patterned satin, the patterns formed by contrasting areas of warp and weft satin. The full satin threading is required for each block of the pattern, and the minimum size satin on five shafts is usually used... Damask patterns are subtle since they are light-reflection effects created through warp and weft emphasis. The greatest light reflection contrast develops when each satin has maximum reflection and this occurs when warp and weft are perfectly balanced. Therefore the best damask has exactly as many weft shots per inch as there are warp ends.

*Contemporary Satins* (1962) by Harriet Tidball, p. 12.

A *satins-damask weave* combines areas of satin and sateen construction and, more often than not, is self-toned. In jacquard patterns the basic damask is often combined with brocade and other weaves. Dense stripes of satin weave may also be combined with sheer plain weave.

*Fabrics for Interiors* (1975) by Jack Lenor Larsen and Jeanne Weeks, p. 85.

Damask: turned satin; a simple weave in which areas of warp-predominant and weft-predominant satin appear on the *same surface* across the width and length of the cloth. In some sources turned twill is also considered damask.

*The Complete Book of Drafting for Handweavers* (1993) by Madelyn van der Hoogt, p. 68.