



Designing Handwoven Textiles.

All handwoven fabrics, no matter how simple, should be planned or in other words designed. Let us try to design for use today, rather than "copy" what past periods have given to civilization. We are not living in Colonial America, or in stage coach days, but in the present age of invention and speed. Radio, telephone, automobiles, etc. are at present all around us, and symbolic of the age in which we are living. We would not think of riding in a car built in 1920, and yet we are perfectly satisfied to wear clothes and use textiles in our homes which were designed for use in homes fifty to a hundred years ago. We can be sure be inspired by all that has gone before us, but let us try to evolve textiles that belong to our own time, rather than past ages. The study of Colonial coverlets, for instance, gives us appreciation and knowledge of the time and effort which our grandmothers needed to produce the treasured heirloom which has come into our possession. And if our knowledge of weaving and the loom has been carried far enough, we can take and use many of these old Colonial pattern drafts to evolve new fabrics with new threads very different from those of the old coverlet. In the same way, we can use and learn to appreciate many of the lovely old foreign textiles, such as tapestries, etc. which have found their way to our shores. Their techniques can be adapted to new designs and new uses far different from that intended in the original fabric.

The materials of which the article is to be woven must also have some consideration as the design is being planned. What kinds of yarn or thread are to be used? Are they appropriate for the design which has been planned? What are their possibilities and what their limitations? If color is to be used in weaving the design, is it possible to obtain the colors used in the design in yarns on the market. Bernat's color card of tapestry wools is a great help when it comes to the planning of a design to be carried out in colors. And if an article is to be made of linen, for instance, the color of the linen threads which are obtainable must be considered as the design is made. Or you can start the other way around, take a definite kind and color of threads, and build your whole design of what you intend to weave around them. I myself never get even a small swatch of sample threads in lovely colors but what my mind immediately begins to think of all the lovely things which they could be used to make, and of course the design builds itself up with the threads. Even different kinds of threads have many possibilities for different textures, even though there is only a slight variation in the color of the threads to be used.

Another requisite of good textile design is that it should be suited to the technique with which it is to be carried out. Right here I like to make two large divisions of loom techniques;— one what I call "Free woven Pattern Design" and the other "Loom Controlled Pattern Design". The "Free woven Design" is entirely controlled by the skill, hands and mind of the weaver, while the "Loom controlled Design" is controlled to a very large extent by the pure mechanical arrangement of the pattern draft in the way the threads of warp have been threaded into the harnesses of the loom, as well as the manner in which the treadles are used.

In general, when attempting to make a design for weaving, I have found it a good plan to first draw out, preferably in actual size, the outline of the article to be woven. This gives you some definite idea of the space you have to fill, and you are at once brought up to the problem of the right length in relation to the width. After the width has been decided, one of the first questions that students generally ask is, "how long shall it be." Many people have an instinctive feeling for good proportions, while others need guidance even in this simple problem. And for those of you who wish a definite help on planning width in proportion to length, I refer you to "Handweaving News" for January 1934, where you will find an adequate simple explanation based on the use of dynamic symmetry with all of the complex mathematics left out. With this simple method, one can easily determine the correct length in proportion to the width.

The next step is to fill the working area with masses of some sort using a variety of sizes as well as different kinds of shapes and lines which carry out and conform to the structural size and form of the object being designed. One of the easiest methods I have found is to use colored paper and scissors. The method of "Designing with the square as a Unit" was described in the Handweaving News for 1936. In this way squares and lines composed of the unit square can be cut out in actual sizes and moved around and placed as suits one's fancy until a pleasing arrangement has been found. Other shapes can also be used as well if desired. Where can the student look for ideas and inspiration for designs that are simple. One of the best sources are the Indian baskets and rugs. Current copies of Design magazine for October, November and December 1937 offer a wealth of material which could easily be adapted for numberless things. Two of the best books on Indian material are, "Navajo Weaving" by Charles A. Amsden, and "Indian Blankets and their Makers", by George Wharton James. "Some of the Latest Models of Finnish Rugs" can be had from Albert Bonnier, 4th Ave. New York. This has in it many fine illustrations of rugs in color, and is an excellent source for ideas. Those of you who have the libraries of the larger cities and Art Institutes will find there much valuable material for original designs which are not only very practical but can be easily woven. If you desire to sketch your design freely first instead of designing with the cut paper or cut squares, of course that is quite all right. But for those who have had little training and experience I have found the cut paper method simpler and generally easier. If you draw your design or sketch it, you can trace it on to the cross section paper, and then follow the traced lines as nearly as possible, filling in the squares as best you can to correspond to the outlines.

Now let us consider some of the requisites of textile design, for these help us and place limitations which make the problem simpler. At the present time we hear much about "functional" design. So let us ask what is the function or use of the textile for which we are planning a design, is it utilitarian or merely decorative? Its use generally determines its form, or in other words its size and shape. For instance, just recently a student brought to me a design which she had planned for a rug. The shapes were small and scattered around the outside edge, and when I pointed out to her that they would look lost on the floor, she changed the whole arrangement because as she said she really had not thought of the design as a rug. So the use of the textile can determine its form. Designing even a simple plaid for a rug involves the consideration that the plaid is for a rug and not for a dress or a luncheon set.

The structure of a handwoven textile controls to a great extent its use and form. Warp threads run lengthwise, and weft threads cross these warp threads at right angles. Consequently the designer must know that circles and curved shapes are more difficult to execute than straight lines. The finer the threads and the closer they are together the easier it is to approach a circle. Try making a design on large cross section paper, and then draw the same design on a very small size cross section paper, and this point will be very clear, if the lines curve or approach a circle. The beginner should always keep in mind the structural size and shape of the textile he is designing, and that simple geometric shapes and slight variations of these make the most successful designs. Horizontal lines, vertical lines, and diagonal lines are generally easier to weave, and these lines can easily be made to follow the structural shape of the rug, bag or luncheon set which is being planned.

"Free woven Pattern Design" can be woven on any loom which allows for the raising of one set, one half the warp threads, and the lowering of the other set or the opposite warp threads. Of course the loom controlled pattern design would generally imply more than a two harness loom. Also a loom controlled pattern can usually be carried out much faster and easier than on a hand loom. A good example of this is the way that old Colonial coverlets are being woven on either fly-shuttle or power looms, some of them even to the seam down the center, and sold in the department stores for as little as \$4.95 for a full sized coverlet. A recent exhibit in one of the large stores in our city featured a collection of real old Colonial coverlets in both the Jacquard and four harness types, together with new ones woven to exactly "copy" the old designs. To my mind the hand loom should be used to create textiles which the power loom cannot as yet duplicate, and use for the weaving, threads and yarns which are new and unusual and not yet adapted to large commercial use. And there are still many of the "free woven techniques" that the power looms have not as yet been able to duplicate.

Now let us consider what variety we can obtain on a loom where we have just the plain weave, or in other words, just a two harness loom. First we can use different kinds of threads in various combinations to gain interesting textures. One rule to remember is that if you wish to combine a wool and cotton warp, two warp beams should be used, as the stretch of the wool warp will be greater than that of cotton, linen, or silk. The next variation of plain weave, comes from arrangements of stripes of different colors, or weftwise stripes. These stripes should be of different widths, as well as of different colors to be of the most interest and not monotonous. Lengthwise stripes, or stripes of color in the warp, with a neutral color for all of the weft, or plaids are formed in plain weave when these lengthwise stripes are crossed with an equal number of weft shots of the same color. Scotch tartans are a good example of how plaids can be formed. And the best book I know of, giving many colored illustrations of the different plaids, with some of the history of the clans, is "The Scottish Clans and their Tartans" by W. and A.K. Johnston. Of course any of the above variations could be done on either a hand or a power loom, or even on a very simple primitive loom with only the use of heddle sticks.

I will now attempt to give a brief outline of some of the "free woven" techniques, with a few references concerning them which may be useful to many of you.

1. "Laid-in" technique, - Three types of design. Hit and Miss, laid-in, to my mind best designed right on the loom as you weave. Can be excellent or very ugly according to the colors and kinds of threads employed in the weaving. Squares, diamonds, and realistic designs can be carried out in several colors. Detailed description of this technique was given in the April 1936 News that is simple and easy to follow. The leaflet "Lace Weave from the Island of Cos" gives an entirely different method of using this technique also. "The Book of Weaving" by Anna Nott Shook is another book that deals with the laid-in type of weaving. Also "Adaptations of Tapestry Weaves", by Cecilia Cleveland Williard. "American and European Handweaving", by Helen L. Allen. Designs for this type of weaving can be carried out either in actual size and pinned under the warp threads, or they can be drawn on cross section paper and the warp threads counted as the weaving progresses.
2. "Pick-up" or Brocade weaving, - Some of the Swedish books call this type of weaving "Flushing" (Dukagang, or over three warp threads and under one) or generally called embroidery weave in this country. Diagonal flushing, or in Swedish (Krabbasnar). Each line of cross section paper squares are different in this technique. Half Krabbasnar has three weft shots with plain weave tabby between all exactly the same. Simple designs and directions for the working of this "pickup" technique with the shuttle on a flat warp were given in the News for August 1937, for the heddle belt loom, and designs given in the News for Nov. 1936 could also be used. Designs can be drawn out on cross section paper but the skips should not be too long, unless the weaving is very fine, or unless the back does not show. "Swedish Textiles" by Emilie von Walterstorff, has excellent illustrations of these techniques. Also "Vavboken" by Montell-Glantzberg.

3. Tapestry Techniques,- True tapestry is a bobbin type of fabric, and as yet not been able to be copied by a machine exactly as it is woven by the hand of the weaver. The design can be geometric, pictorial, or floral and is planned so that the warp will hang horizontally as in the Gobelins. Tapestries of this type are being woven at the Tapestry Looms, 238 East 47th St. New York City. Where two colors meet each other in a vertical line, a slit in the fabric will appear. There are four methods of handling these slits,-

- 1) Interlocking wefts around the same warp thread as the colors meet.
- 2) " " " each other
- 3) Planning the design so the verticals are short and leaving them open
- 4) Leaving the verticals as they occur in the weaving and sewing them up after the removal of the fabric from the loom.

References,- Tapestry Techniques by Emily Goodwin; Indian Blankets and Their Makers by George W. James. Navajo Weaving by Charles Amsden. Two excellent articles in the current number of the "Weaver" by Elmer Hickman and Ellis P. Cole. The Swedish books mentioned above and Miss Allen's book also contain valuable material. A very rare form of the tapestry technique where the slits form the pattern is found in some of the Turkish and Greek weavings. This Miss Allen calls, "Demondesh". I found it in some silk fabrics from the Island of Cos, and have described it in detail and given designs for the weaving of it in my leaflet, "Lace Weave from the Island of Cos." I know of no other references for this particular type of weaving. So called "Spanish stitch" while not strictly a tapestry technique could be classed under this heading. It was introduced into this country by Mrs. Gertrude Howells of State College, New Mexico. She also published a small book on the weave with designs that are common in Spain. Handweaving News for March 1937 gives a detailed description of the weave, and some variations worked out by some of my own students.

4. Pile and Knotted Techniques,- These include the different types of knots and the tufting technique. Method of tufting was described in Handweaving News for November and in July 1936. Almost any type of design may be woven in these techniques. An excellent description of the Ghiordes and sehna knots is contained in Handloom Weaving by P. Orman. "Some of the Latest Models of Finnish Rugs" contains excellent illustrations of rugs woven in the Ghiordes knot technique. "Popular Weaving and Embroidery in Spain" by Mildred Stapley has excellent illustrations of tufting as well as some of "Spanish stitch" or as she calls it "red de telar."

This brief outline of different types of techniques should show the possibilities for designing according to the type of technique to be used, the article to be woven, as well as the kinds of yarn to be used. And if the references are studied should offer an interesting field for the weaver of original fabrics.

I wish to take this opportunity to thank those of you who have sent in their subscriptions for Handweaving News for 1938. Please let me know if I can be of service to you in any way concerning your weaving problems. And if there is any particular thing you wish included in the News, do write and tell me. I am also always glad to give advice as to what materials to use for special types of weaving, and often have on hand interesting threads for unusual fabrics. Also I will be glad to answer problems concerning looms etc. If you are planning on buying another loom, I should appreciate your placing your order through me, as all of these things help to keep the News letter going.

I am at present planning to send out a traveling Exhibit of weaving very soon. Several have already subscribed \$5.00 for this. Is there anyone else who would wish to be included? If so, may I hear from you right away. This exhibit will include examples of the Bratten Lace Weave, Lace Weave from the Island of Cos, several bags, etc. and if you have any special type of fabric you wish to see, when you send in your subscription let me know, and I will be glad to include it.

With all best wishes for the New Year of 1938, I am

Sincerely yours,

Helli Lugent Johnson

12489 Mendota Ave. Detroit.

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