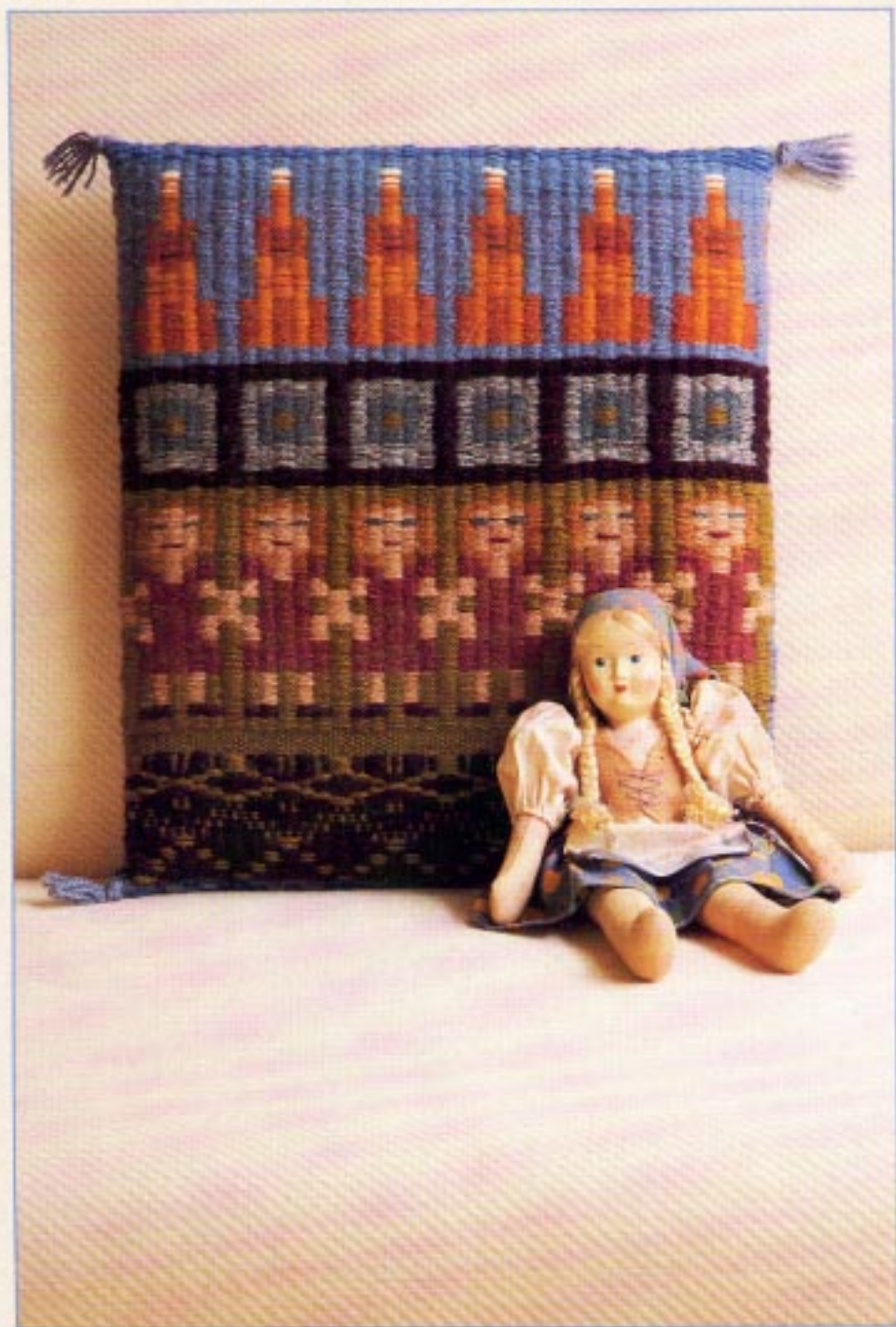


The Weaver's Journal

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Volume X, Number 2, Issue 38

Fall 1985



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The Weaver's Journal

Quarterly Journal for Textile Craftspeople

Volume X, Number 2, Issue 38

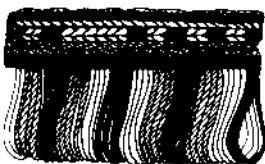
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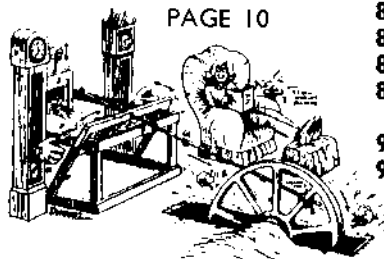


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"Self Portrait with Cat," woven in boundweave by Phyllis Waggoner. The weave uses a diamond overshot threading with a balanced twill tie-up. The article begins on page 58.

Photo by Jila Nikpay.

◆ FROM THE EDITORS ◆

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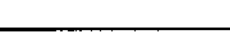
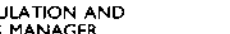
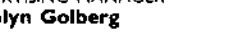
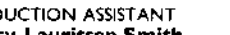
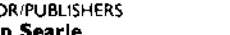
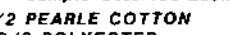
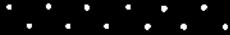
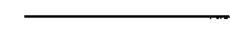
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IT ALWAYS GIVES US a lift when someone walks up to *The Weaver's Journal* booth and says, "I'm a subscriber." We receive so many valuable comments from these encounters. At a weaving conference this summer, a woman rushed up to our booth in a flurry of excitement. "I have just discovered your magazine and it's exactly what I've been looking for!" Naturally we were very interested to know what she had been 'looking for' in a magazine. She explained to us that while she liked to learn about new techniques, consider new projects, and learn about new products and publications, she also wanted to expand her knowledge about her craft, and understand its connection to other times and other places. She appreciated the fact that *The Weaver's Journal*, when necessary, could give generous space to special articles. We felt she captured some of what we feel is special about *The Weaver's Journal*. Since we do not see many of you face-to-face, we thought this might be a good opportunity to highlight some of the other special features of our magazine.

How many of you know that our issues are organized around several recurring themes? Each year we produce one issue on clothing (winter), another on rugs and home interiors projects (spring), and one on fibers/spinning/dyeing (fall). The summer issue has a flexible focus: this year it was ethnic textiles. Occasionally an issue will have a secondary theme as well. Last spring by coincidence a number of our articles looked at Scandinavian weaving, providing a ready-made focus. In the last year we added several regular and semi-regular feature departments to *The Weaver's Journal*. These include "Finishes/Shared Traditions," "Meetings and Gatherings," "Complex Looms/Complex Weaves," and "Notes of a Pattern Weaver."

Our fibers/spinning/dyeing articles in this issue take a look at a dye plant garden, silk dyeing methods for both natural and chemical dyes, Navajo sheep and wool production, and silk production in Kumejima, Japan. Some of the letters and articles in this issue deal with equipment, a subject of importance to all weavers. We interviewed several equipment manufacturers during the summer in order to better understand the current state of the industry and we include this material in this issue.

To those concerned about why our "Complex Looms" column did not appear in the last issue, be reassured that we have not dropped this department. We are broadening our approach to the subject in this issue with an article by Sigrid Piroch. She gets down to basics, discusses the options available to weavers, clarifies the term "complex." From now on, we will focus more specifically on weaves, and occasionally on a particular type of loom. Because of space and editorial considerations, a particular department may not appear in every issue.

While on the subject of departments, we want to let you know that we are considering a new idea for a recurring department that might appear occasionally in future issues. Connie Magoffin's article on the Dye Garden, a guild study project, suggested possibilities for publishing the results of successful guild projects (or other group projects) undertaken by weavers, spinners, or dyers. If you have some ideas, please let us know.

Although we may never meet you in person, we are still in touch with many of you through our Reader Survey. We are delighted with the response so far, but we'd like to hear from still more of you. We want to know about you and your interests. Please don't let others who have returned their surveys serve as your spokesperson! Let us hear from you. It's not too late—we have extended the deadline for the return of surveys to December 15, 1985. Incidentally, some of the survey forms were not printed on the inside pages. If yours was defective, send us a postcard, and we will replace it. We will publish the survey results in the Spring issue.

Karen Searle & Suzanne Baizerman

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◆ LETTERS ◆

I THOUGHT YOU WOULD WANT TO KNOW that my last issue of *Weaver's Journal* was lucky to reach me. The label was hanging on by one tiny corner. Obviously the glue didn't work properly.

I have greatly enjoyed the articles on preserving and the proper hanging of weaving. I was getting ready to hang a large handwoven wool rug from Mexico when the last issue came and I followed the directions given in the article.

I hope you will continue to have articles about complex looms. As a weaver with a Swedish loom with a draw harness device I am eager to read about uses of long-eyed heddles and complex weaves. I would also like to see the use of the terms "draw harness device" and "shaft draw system" rather than just draw device or draw system.

Your issue on "Scandinavian Traditions" was very well done. The Scandinavian weaves are my first love and I enjoyed seeing the fresh approach you had to many of the articles. I especially enjoyed the article on Märta Måås-Fjetterström.

I hope you will continue to publish more scholarly and technical articles. The other weaving publications seem to pretty much ignore these areas. Hopefully there are enough weavers interested to support you.

Suzanne Nicholson
Lopez Island, Washington

SORRY TO SEE YOU SWITCHED your emphasis to multi-harness projects (6 and over) in your last three issues. Though interesting to read it is useless to the weaver with a 4 harness loom.

I hope this is only a temporary situation.
Margie Smith
Dundas, Ontario

IN READING THE LATEST ISSUE of *The Weaver's Journal* I was glad to discover you have a textile chemist as a consultant. I too worried about using "Kool Aid" dyes. In addition, I have two dye questions about which I would like answers and reassurance. I do not use potassium di chromate as a mordant because I do not know of a safe way to dispose of it without polluting our ground water or local sewage disposal system. Is there a safe way to dispose of chrome mordant?

Another question: Dorothy Miller's indigo dye book advocates using zinc to indigo dye cotton. I understand this chemical is very combustible. What dangers are involved in using zinc while dyeing several pounds of cotton in one's house?

Thank you for the new direction in which you are taking *The Weaver's Journal*.

Jill Martin
Waukegan, Illinois

Mr. Weiner replies: *There is no way that the chrome mordant can be disposed of safely. Indus-*

try does dispose of similar products by shipping to authorized hazardous waste dumps. If you must use di chromate, then allow your exhaust bath to evaporate to dryness. Store the residue in a closed container until you can find a friendly chemical processor who will dispose of your accumulated di chromate.

You are right about zinc. In powder form it is dangerous and a fire risk. It may form explosive mixtures with air. In bulk when it becomes damp, it may heat and ignite spontaneously on exposure to air. Even zinc foil will ignite in the presence of moisture.

Zinc compounds are used as reducing agents for indigo. This can be replaced with safe chemicals like Thio Urea Dioxide which is a stable reducing agent and is safe to use and store.

IT WAS WITH GREAT INTEREST that I read Philis Alvic's "Notes of a Pattern Weaver; Tied Lithuanian," in the Winter 1985 issue.

As a weaving technique, *Tied Lithuanian*, known as *Pervarai*, in Lithuanian, is centuries old. Various ornate household linens and articles of clothing have been woven using this technique.

Today a small group of Lithuanian weavers, mostly members of the Lithuanian Folk Art Institute, are again using old peasant type looms and natural fibers to create authentic Lithuanian folk costumes.

As Philis Alvic points out, the technique is found not only in Lithuanian folk weaving but also in American and Canadian coverlets.

Thank you for an interesting article and for giving this technique such a great name.
Ilona M. Rubas
Riverside, Illinois

I ENJOYED READING the article "Notes of a Pattern Weaver: Bergman," by Philis Alvic [Summer 1985].

Her statement about treading requiring "good leg muscles, two feet and lots of concentration," differs somewhat from my experience with the Bergman Loom. The Bergman Loom, which Margaret Bergman's husband manufactured, was counter-march and therefore did not have the heavy weight of harnesses. However, you must use two feet and lots of concentration for some of her patterns.

I have two of the Bergman's early counter-march looms and I wouldn't trade them for a jack loom. I have woven several variations of her background weave. Margaret Bergman taught weaving in the Poulsbo area of Washington state and helped form the Kitsap Weaving and Spinning Guild in 1938.

Betty Gaudy
Cottonwood, Arizona

I VERY MUCH ENJOYED your Spring 1985 issue on "Scandinavian Traditions." I was surprised and pleased to find my enormously talented cousin as a reference on p. 40. [Fin-

ishes/Shared Traditions: "Firfletting."] Small world! I am sending her a copy of the issue.

I add that she made several pieces for her children not as runners but to hang behind the "high seat" (place of honor at the table). The linen with as much as 16" of fringe was draped over a nice woven piece of material favoring the colors red and green. This allowed the fringe to show off to great advantage. She remarked that it was cheerful to view. Too bad the person in the high seat could not see it: rank hath its disappointments . . .

The piece I saw her working on several years ago was in the range of forty ends per inch which made a very delicate fringe. It was pinned to an A-frame covered with flannel which helped to keep the work flat. She had started on the left and was working her way to the right on a slight diagonal. Because she didn't have the time to weave the cloth, she had very carefully unraveled approximately 20 inches of fabric someone else had woven.

If you decide to try this, don't start with 40 epi; try 15 epi or so. Take the time to see what you are doing. Use pins to mark your place. The ends not being called into use at the moment should be neatly out of your working space. Look up or away frequently and know when to take a break. The pace is slow to start but my cousin's fingers flew as the pattern emerged.

I was impressed with her stand and I think that a child's blackboard (a sturdy one) could be slightly padded and covered with flannel so that here is an ease about working, sitting, storage, carting, all the things weavers have to do.

P.S. The booklet mentioned, *Gamle Firflettingsmønstre*, was published by Ragnild [Onstad] in the hope that this particular art would not die.

Karen Moriwaki
Norcross, Georgia

THE WEAVER'S JOURNAL seems to be thriving with the change in editors. Congratulations! I really enjoy reading and comparing the content of various magazines, and it is nice to see that each is taking a format that supplements the other, so that competition is friendly.

I enjoyed the article on dobbie loom weaving. As a computer user I entered the threadings and some variations on my program (Broos Weave master, on an Atari 800x1) and got some nice effects. Figure 4 gave a particularly dramatic effect—but of course with fairly long floats.

It would be nice if that old draft book could be reproduced. The Cincinnati Guild did a photocopy of a draft book which was otherwise only available in a museum. I found one old reproduction which had some really interesting six harness weaves and did quite a bit of playing around with those drafts. Some of us are drafting nuts and sit with a pad of graph

◆ LETTERS ◆

paper or the computer instead of doing such mundane things as washing the dishes or vacuuming.

The guild of which I am a member has a study group which is working through *Treading Through Twill*, by Nicki Lyon (1416 5th St., Manhattan Beach, CA 90266). This book concentrates principally on the development of tie-ups as a design tool. I found this book through Nerma Lee Hill who wove the Bateman samples for Virginia Harvey for the HTH monographs on Dr. Bateman's work.

As I went on through the magazine I enjoyed the variety of articles. The content of the article on sacramental garments is interesting, but the notation that is shown with the undulating twill draw cannot produce the structure shown. For curiosity I drew it out and enclose two possible ways to produce the weave structure, one vertical and the other horizontal as in the article. [see Errata, p.00] Also since the drafts in the earlier article in the same issue were 16 harness, I think that a comment that it was 15 harness would have been helpful. I have students who read the magazines and do not take the time to check out things like the drafts and use them like cookbook recipes, and they could get in trouble with something like this.

P.S. I wonder if the blue/green undulating twill pictured was woven with that draft?

Glory Koehler
Menlo Park, California

Editor: The Art Institute of Chicago has plans to publish the Allen-Stephenson Draft Book.

Concerning the undulating twill draft, Ms. Lockwood replies: In response to your questions regarding the Undulating Twill draw in the article "Symbolic or Sacred," in the Winter 1985 issue, "The Chasuble of the Sea" was woven with the draft that was pictured. You are, however, correct in saying that the undulating twill cannot be reproduced with the structure shown and I apologize. Obviously, in the xeroxing process I allowed the treadling sequence to make one quarter turn to the right. If you turn it back, the diagonal line will read from top right to bottom left and the treadling sequence will then be in order. Also harness no. 14 should not be included in the first treadled tie up. [see Errata, p. 90]

I WAS LOOKING through last year's *Weaver's Journals* to find which were my favorite articles. While perusing the fall 1984 issue, I found my notation on one margin for me to write in answer to a question by one of your readers [Carol Pickens from Alexandria, Virginia]. She requested some kind of rate sheet for contract weavers. The following formula works well for me. My weaving consists mostly of yardage with single shuttle wefts.

General Charges for Warping
warping material—\$.14/thread
threading (or rethreading) heddles—\$.04/
thread

sleying (or resleying)—\$.02/thread

Total operation—\$.20/thread

This does not include the thread itself. Extra charge will be made for difficult or complicated warps.

General Charges for Weaving:

7-8 ppi.—\$3.75/yard

10-12 ppi.—\$5.00/yard

14-16 ppi.—\$7.50/yard

This does not include weft yarn. Extra charge will be made for difficult warps and/or wefts according to extra time involved in weaving. Multishuttle or pattern weaving will be charged according to the extra time involved in weaving.

With the help of a flying shuttle, I am able to make about \$7.00/hour using this formula.

Karel Henneberger
Smithsburg, Maryland

I WAS VERY PLEASED with the presentation of my article on "Traditional Striped Fabrics for the Middle Eastern Kaftan," Vol. X/1/37 (S85). I would like, however, to draw your attention to the following printing errors.

On page 34, in the first paragraph following the subhead, "The Concept of Stripes in Middle Eastern Textiles," the following sentence should read: "In Eastern Mediterranean regions, particularly in Egypt, the development of designs in horizontal bands was predominant, at least until the 9th century." 19th was substituted for 9th.

The first paragraph on page 38 should read as follows: "One method uses a sateen draft and straight treadling order, (diagrams A and C); the other method uses a straight draft and a sateen treadling order, (diagrams B and D). Once the proper drafting of the design unit is considered, in accordance with the satin weave draft, the same result is achievable from both methods. They allow the threading of the satin weave, as well as the corkscrew weave, to be combined on the same shafts, thus limiting their number to six. Twelve ends are required to achieve the diagonal line effect, while this number may be extended to twenty-four ends for obtaining a chevron effect. Both are arranged in two colors with 1-and-1 order."

In figure 7, diagram A, the first square on the first end of the corkscrew weave should be left blank; in diagram B, the last square on the ninth end of the corkscrew weave should be crossed.

Dr. M.M. El-Homossani
Willowdale, Ontario
Canada

I AM INTERESTED in the rayon used by Marilyn Holtzer. In her article "Tablet Woven Garments and Accessories," in the Winter '85 *Weaver's Journal* she listed Mar-Car Pro-

ducts as her source for Natesh rayon. I wrote to the address listed and my letter was returned.

Marguerite Schreiber
Delaware, Ohio

For "Beginning with Bands," by Marilyn Holtzer, Vol. IX, No. 3, Issue 35, p. 33, the correct address for Mar-Car Products is P.O. Box 2989, St. Louis, MO 63130.

Equipment Forum

AT THE RECENT MIDWEST Weavers Conference in Bloomington, Indiana you kindly handed to all commercial exhibitors a copy of the spring issue of *The Weaver's Journal* and it was with great interest that I read your magazine on my return trip to Vancouver, in particular Allen A. Fannin's article "Looming Thoughts."

Mr. Fannin relates in terms of spinning equipment not advancing to the 20th century. I have obviously been advertising my product in the wrong magazine! I have been in the process of promoting the *Roberta* electronic spinner for the past two years now and finally I can see a breakthrough in the attitude of spinners to the more advanced product. I believe that the *Roberta* answers quite a few of Mr. Fannin's questions. Aesthetically it is pleasing and made of hardwood. It is priced within reach with an adjustable speed control to suit individual needs. I believe the manufacturer I purchase the "Roberta" from has tried to advance into the 20th century, but still tries to retain the artistry involved with spinning fibres.

Brigid Pawson
Ertoel North America
Surrey, British Columbia

Mr. Fannin replies: Despite all the apparent changes in the field, handspinning has not advanced in substance. Addressing the various "electric" spinners specifically, they do not really represent an advance. Many of these spinners are simply an electric motor attached to an ordinary flyer/bobbin assembly. I submit that a change in the nature of the motive power from human calories to electricity does not represent an essential change since the flyer/bobbin assembly remains the same in principle.

The flyer/bobbin assembly is a very old means of performing the two primary functions of a yarn-making device, namely twisting fibres and that of collecting the resulting yarn onto a package. However, the flyer has an inherent fault which no change in the source of motive power can alter, namely, lack of dynamic balance. It is a well known principle of rotation physics that a rotating body whose mass is unequally distributed about its axis is not inherently dynamically balanced beyond a certain number of revolutions, static balance notwithstanding. On the other hand, a rotating body whose mass is distributed equally throughout 360° of its axis is inherently

dynamically balanced to a far greater number of revolutions, as in the case of dynamic balance in automobile wheels. In a flyer, nearly the entire mass is distributed at two points 180° apart across the axis of the mass. This means that while static balance is achieved, the more essential dynamic balance is extremely difficult to maintain except at very low rpm. Mill spinners discovered this many years ago and their discovery led to the invention of the cap spinner and subsequently the ring and traveller devices. Lest you think that a handspinner has no need for the kind of speed required on mill spinning frames, let me point out that I and other highly skilled handspinners can and regularly do work at spindle speeds in excess of 4500-5000 rpm. While an electric motor can certainly do this, I have never encountered nor do I ever expect to encounter an ordinary hand-spinning flyer that is capable of being dynamically balanced at that speed. Now, it does not seem to me that spinning as a field should be held back because spinners cannot develop their skill beyond the limitations of the flyer/bobbin assembly.

Please understand, I do not wish to curtail small businesses that are doing what they can in a very difficult market situation. My aim is to stimulate a different kind of thinking on the part of equipment makers and users and, further, to stimulate a dialogue between the two. I would like to see, for instance, someone develop an adaptation of the ring and traveler to a single spindle handspinning device. I have seen this done somewhere in the far east, without electric drive. I would like to see someone develop a Jenny for those spinners who need and want more output.

Allen A. Fannin
Westdale, New York

Editor: We received many comments from loom manufacturers by phone and in person at the summer's round of conferences. They felt that Mr. Fannin's article contained some inaccurate statements, particularly about softwood construction being cheaper (softwood construction involves more labor costs) and about looms not being flexible (many can be added to). They felt that the article placed them in a defensive position, and were therefore reluctant to respond to it individually in writing. We decided to conduct an interview with a number of loom manufacturers to better understand their position and the nature of their business. The results can be found in the article on the loom market, page 8.

It is interesting to note that we received no letters from readers disagreeing with Mr. Fannin's position on deficiencies in equipment available to handweavers. The two letters following are typical of the ones we received. The third is typical of comments we received from advanced weavers and production weavers who wish to develop their skills further, but feel restricted by the limitations of available equipment. Although this group probably comprises a very small percentage of the total

loom market, a significant percentage of our readers fall into this category, and it seemed appropriate to list their concerns here, as well.

YOU COMMENTED at the end of Allen Fannin's article on equipment (Spring 85) that you expected controversy over his conclusions. There should not be any, but I expect that you will get many comments from your readers.

As individuals, we each have a unique set of needs and requirements. A desire for complicated, efficient equipment to produce loom-controlled patterning does not mean that one holds anything less complex in contempt. In fact there are many beautiful fabrics being produced on so-called "simple" or "primitive" looms. One has only to see the delightful and often complex fabrics done on a two harness loom to understand that the loom a weaver uses is the smallest part of being a weaver. It is how we use the equipment that is important.

I applaud Allen Fannin's challenge to weavers and spinners to look for and expect manufacturers to produce equipment that will do the job efficiently and effectively.

One of your readers commented that computers were "industrialization," not weaving. Is an electric bobbin winder "industrialization?" What about a boat shuttle?

Are any mills using computers in weaving as innovatively as are handweavers? Perhaps handweavers are a step ahead of industry in this aspect of designing. It would be interesting to hear from mill representatives to find out.

Over the last few months our guild acquired a nearly complete set of *Handweaver and Craftsman* which I have been reading. It is amazing how closely handweavers worked in the past with small power mills designing fabrics for industry. I wonder how, when and if this connection was severed and if the use of computers as a design tool by handweavers could serve to re-establish contact. After all, we all have the same aim in life—to produce good cloth.

Laura Fry
Prince George, British Columbia

AFTER READING "Looming Thoughts," I felt like applauding. He is absolutely right on point. It's great to hear from someone who's not a fence-sitter, and actually has an opinion. Other than the late Stanley Zielinski, there have been very few weavers willing to make definitive statements concerning looms, and loom design.

One of the problems seems to be the contradiction, that most of our textile publications will accept advertisements from any and all loom manufacturers but will not test, or really compare the looms, lest they lose the advertising revenue. The result of this "happy face" attitude toward all loom designs, is that valuable information isn't exchanged, and the

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Equipment Forum

Who are the loom manufacturers?

There is no one answer to this question because the equipment manufacturing businesses cover quite a range in size. On one hand, there are one-person, at-home shops with very limited production. On the other hand, there are sophisticated, assembly-line plants. In between, one finds small shops with three to ten employees. All of them seem to share a love for fine woodworking, however, and camaraderie rather than fierce competition is apparent.

For those in smaller operations, one gets the sense that their work enables them to lead the kind of life that is important to them—functioning as craftspeople themselves, and enjoying their interaction with their weaver-clientele. As one manufacturer noted, "we are not a bunch of rapacious businessmen."

Editor's note: Because of the interest in equipment generated by Allen Fannin's column in our Spring issue, we decided to interview a number of U.S. weaving equipment manufacturers to see if we could better understand how they see themselves and their work. We chose ten manufacturers representing a broad range of available equipment, and talked to them by phone and at some of the recent regional conferences. We offered anonymity so they could feel free to speak frankly. Here are some of our findings.

How does the loom business compare to other manufacturing businesses?

Loom manufacturers see themselves competing in a small mass market business with consumers numbering in the thousands. By contrast, other leisure time activities such as photography or tennis have followers in the millions. Such numbers make it possible for a

manufacturer to save on parts which can be ordered in large quantities. Unit prices of parts can be reduced. Sales volumes are large enough to provide a margin for research and development of new products.

Loom-making is seen as a very labor intensive industry with raw materials probably contributing only twenty per cent to the cost of the average loom. Therefore, changing the materials used from one type of wood to another, or from wood to metal would not dramat-

LETTERS

"average" weaver doesn't know what is a good loom design for the particular type of work he/she does. It takes little reading to discover that there used to be many types of looms, each modified and honed down to do the best work for the particular fabric that was needed. Now there are few designs, and many tools are either hard to find or are no longer made: automatic roller temples, highly lacquered, glass-smooth lease sticks, finely made shuttles, raddles, semi-automatic warping mills, to name a few examples.

The advent of the "parlor organ" type of low profile jack loom, probably has been, in my opinion, responsible for some of the stagnation Mr. Fannin mentioned. When additional shafts cannot be added to a loom, or the beater cannot be adjusted, or a second warp beam is not available, the user's exploration of potential weaving possibilities is restricted. When a high priority is put on portability, or folding ability, or species of hardwood, the weaver is also restricted.

We use a jack loom, a countermarch, and a counterbalance with a shed-regulator. I feel

that a floor loom must first possess three qualities: *rigidity, mass, and versatility*. I think it's neat to have a floor loom that looks nice, with lots of polished wood—but it can also use some parts of nylon, Teflon™, aluminum, steel, graphite, titanium, boron or whatever eases the friction, reduces the vibrations, and stiffens the joints (of the loom, not the weaver).

I will never have electricity on my loom; I will never have the shafts lifted, or the design picked out by electrical impulses. My weaving comes about from mind and memory, from reading and study, from my hands, arms and legs. It is done as I have prescribed, to the last pick.

Thanks again for the great article. Let's hope that there will be a greater exchange of information in the next few years, to help correct the situation that Mr. Fannin so accurately described. I don't see the manufacturers changing much. They will stick to the lines that have proven to sell in the past. As someone said, the public gets what it deserves, and changes occur only when the demand is great

(or something like that).

William Koepp
Bakersfield, California

I AGREE with Mr. Fannin 100% about the flaws and omissions in equipment available to handweavers.

I feel that our equipment is overbuilt. There should be heavy-duty looms for rugs and light-duty looms for fabric. Ethnographic looms in Africa and the near and far east are very light weight and flexible, yet functional for fine fabrics.

I would like to see more fly-shuttle looms of the light-duty variety available with manual dobby heads (not computerized). I know that one manufacturer has tried this, but it was unsuccessful in the marketplace. I would like to see a fully or semi-automated narrow sample loom. I would like to see a better quality end-feed shuttle available to handweavers. When I show my end-feed shuttles to power loom weavers they are incredulous: they see poor tensioning, complicated threading, cheap (but pretty) wood. I would like to see more coun-

ically alter the price of a loom. Considering the comparatively small market, it was pointed out that looms are available in an impressive range of sizes, from an eight-inch plastic rigid-heddle setup to the Jacquard or dobby looms.

It was noted that looms are better crafted and less expensive than comparable items made of wood, such as pieces of furniture. Further, unlike comparably-priced items, a loom depreciates little in value over the years. As one manufacturer put it, "if anything, looms are underpriced."

What is the nature of the loom market?

The vast majority of loom buyers weave as a leisure activity. Most are people who "cherish the traditional craft," and the aesthetics of a loom are important to most of these consumers. Looms often become prominent pieces of furniture in the home. "The loom has to meet functional criteria first, but it has to look nice, too." For the majority of weavers the process of weaving is as important as the product. Speed is a factor of lesser importance.

Manufacturers are finding only a small proportion of professional hand-

weavers in the domestic loom market. Demand for equipment for the professional is very small. As one manufacturer said, "If there was a demand for a new kind of loom or loom-related equipment, we would be making it. The demand just isn't there."

Loom makers do continue to refine their designs and upgrade their products, however. A flexible product seems to be a current demand of the marketplace, and many have developed looms that can be added to in different ways. Those who are developing some of the more innovative products tend to be the small limited-production shops.

Most loom manufacturers are not weavers themselves, but they feel that they are in contact with weavers in a variety of ways. They meet weavers at conferences and discuss looms. Many make followup contact with consumers who have purchased their products. Also, when new products are developed, there is contact with weavers who test these products, be they friends, local weavers guilds or dealers who sell the looms. Several were enticed into the business originally because of a wife or other family member who is a weaver.

At present, the loom market appears to be healthy, but not growing. Sales for many manufacturers have

remained at approximately the same level for the last four years. New weavers need to be sought constantly, because existing weavers will eventually own all the equipment they need. Although the number of new weavers doesn't appear to be decreasing noticeably, there seem to be more second-hand looms on the market. Some manufacturers are becoming involved in weaving education enterprises either directly or through their dealers as a way of increasing the numbers of new weavers and potential customers. Others have diversified into manufacturing other wood products to boost their sales figures. Time, funds and personnel are not currently available for research and development of a wide range of new products for weavers.

Looms are seldom bought on impulse. It can take a period of months, or even years between the time a customer first shows interest in the product and a sale is concluded. A key question seems to be how to create interest and excitement on the part of potential weavers in an activity that takes a substantial initial investment in equipment. Manufacturers, retailers and other weavers will need to work together to stimulate this growth.

termarcho looms with metal or nylon tie-ups—and more—and all at a price we can afford! I must be dreaming . . .

Angela Lakwete
Harrisburg, Pennsylvania

Editor: We spoke at length with David Xenakis who, like Ms. Lakwete, is a weaver with special needs and high standards for whom the multi-purpose looms on the market are often inadequate. This small group of weavers has clearly defined needs, but foresees difficulty in having them met in the domestic loom market as it currently exists. Mr. Xenakis, as spokesman for some of these weavers, expressed the following concerns:

- The geometry of many looms could be improved to obtain optimum shedding. Jack looms, in particular have shed problems under maximum tension due to the fact that the harnesses, which are slightly lower than warp level tending to ride up.
- Many beams and tensioning systems are inadequate. A loom should be able to withstand a lot of tension without straining the

frame or causing torquing of the beams. Reinforced beams and tension systems which operate on both sides of a loom can prevent the torque which causes one selvage to become tighter than the other.

- The number of treadles provided is inadequate. He would like to see at least four more treadles than harnesses as a standard loom feature to allow for more variety in weave possibilities.

Some products which he and others would like to see developed and/or perfected include: built-in shaft-switch mechanisms, portable dobbies, a computer-controlled jacquard loom, self-adjusting temples, and automatic cloth advance systems.

Some companies have diversified or withdrawn funds from research and development right now, and he feels that that is not good for the industry. Although the equipment industry is now at a critical stage, it could be defeating itself by not working toward producing new and better quality products.

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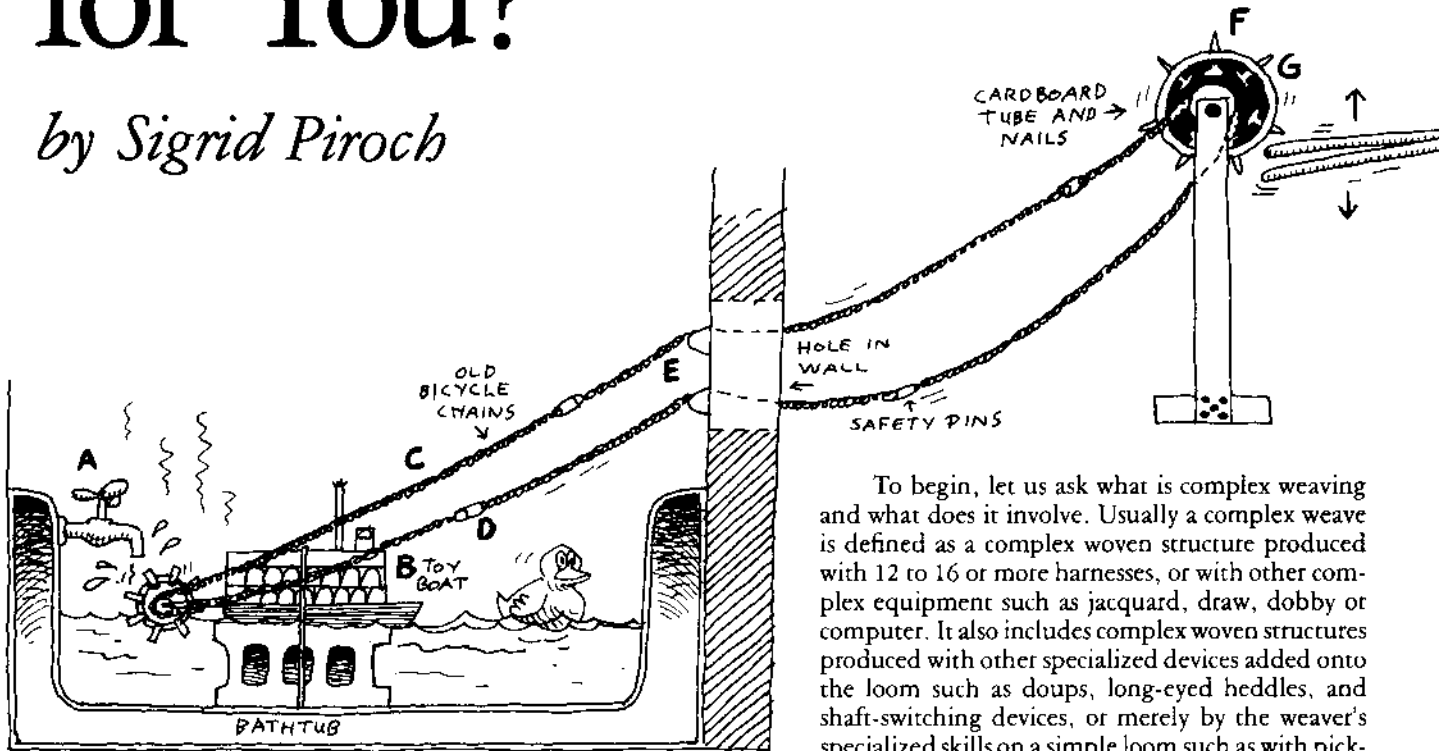
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Is Complex Weaving for You?

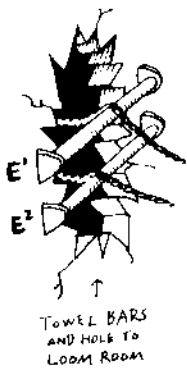
by Sigrid Piroch



To begin, let us ask what is complex weaving and what does it involve. Usually a complex weave is defined as a complex woven structure produced with 12 to 16 or more harnesses, or with other complex equipment such as jacquard, draw, dobby or computer. It also includes complex woven structures produced with other specialized devices added onto the loom such as doups, long-eyed heddles, and shaft-switching devices, or merely by the weaver's specialized skills on a simple loom such as with pick-up methods. Some of the complex weaves we encounter that are popular now include beiderwand, damask, multi-layered fabrics, multi-block doubleweaves, supplementary warps, unit weaves and other weaves extended to more harnesses, opphamtra and other complex west-pattern structures. A complex loom, then, is a loom which can produce *loom-controlled* complex weaves of one or more types. But you can also produce *weaver-controlled* complex weaves without a complex loom! The main advantage of this type of weaving is its great versatility—any thread can be picked-up or picked-down at any point in the weaving. The main disadvantage is speed—the process is usually slow, especially the more complex it becomes, but with practice you can become amazingly facile. Which is for you? If you wonder, check out Doramay Keasbey's book *Pattern Devices for the Handweaver*. She does an excellent job of presenting many pick-up methods for the same woven structures, as well as presenting an overview of complex equipment and devices which can produce complex weaves.

YOU ARE INTRIGUED by complex weaves and complex looms you have seen and read about. You wonder if you could or should expand your weaving capabilities, but with what? And how? With such a "complex subject" (if it really is) where do you begin?

If these questions have occurred to you, you're not alone. More complex looms of various types are being built today than ever before, for both the hobby and professional weaver, as interest in them and recognition of what they can do grows. More professional features, standard and optional are available on looms, both standard and optional, making various types of complex weaving not only possible but easier and faster. In general looms being made today are more versatile, permitting your loom to grow with you as you develop specialized interests and skills. There are more options than ever before which you can add later to your available equipment and more are being developed.

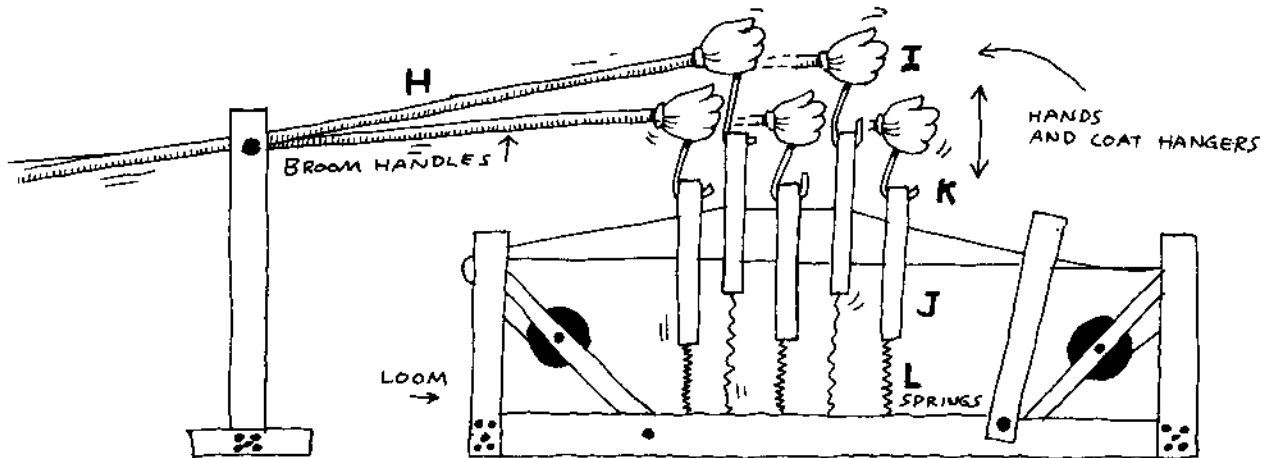


Complex weaving techniques and complex equipment are not for everyone. "More" is not always better. If you are mainly interested in tapestry you may already be creating complex designs with only a tapestry or frame loom and traditional methods. Adding a way to change sheds quickly, with hands or feet, may be all that you would desire,

better with a distance between some of the threaded harnesses;

- the deeper the loom the better the shed often is and the easier some warps weave off, especially those weaves which were traditionally woven on a deep loom damask and beiderwand.

Depending on your interests and your budget there



if that. Some weaver/designers prefer to put more of their time into finishing methods and off-loom constructions. But if you are one who continues to be intrigued by fancy patterns, unusual or complicated weave structures, multilayered fabrics that are loom-controlled, then chances are that complex weaving is in your future.

You can create fancy patterns which appear to be very complex in overshot on a 4 harness loom, but not in damask where more harnesses are needed for each block. The more harnesses you have on your loom, the more design potential you have at your fingertips — not only different weaves and patterns but also possibilities for color interplay, development of layers, or whatever your particular exploration interests are. Of course, you can always weave without using all of your harnesses (8 harness Summer & Winter can always be woven on a 12 harness loom, for example) but you cannot weave something requiring 12 harnesses on a loom with fewer harnesses without picking up threads or adding temporary harnesses or heddle rods. It is true that some weaves can be adapted to fewer harnesses with some compromises, but this is not always satisfactory. Those extra harnesses may come in handy for other reasons, too:

- putting the selvedge threads on extra harnesses may be the best or only successful solution with some weaves;
- sticky or close-sett warps can be spread out over more harnesses to reduce friction and wear;
- some weaves, such as leno and gauze, will weave

are a number of alternatives open to you for loom-controlled complex weaving. You can add some expensive or some not-so-expensive features to your existing equipment and/or buy a complex loom tailored to fit your needs, with or without selling your current loom or looms. It is interesting that the majority of weavers eventually sell their first loom and replace it with another. Many also add on features to their looms for greater efficiency and versatility. It is natural that as your skills and your interests develop you begin to see what your loom, once so all-powerful and perhaps even intimidating, *cannot* do for you. No one loom can do everything. Special interests create special needs. If you would like to weave off warps which develop uneven tensions, such as supplementary warp patterns, seer-suckers, some double weaves like pique and bedford cord, you can hang a rod over the threads as they become slack — or invest in a second warp beam. If you weave a lot of one-shuttle or two-shuttle yardage you might want to get a single or double-box fly shuttle to speed up your production. If you want to weave seamless coverlets you'll probably need a wide loom and a fly shuttle mechanism unless there are two of you to throw as a team. If you are a rug weaver and interested in developing more complex patterns in your rugs, you can learn and apply the shaft-switching technique — or build/buy a shaft-switching device which mounts on top of the loom — or invest in *many* more harnesses for comparable design potential. (Shaft-switching, by the way, is not just for rug weavers!) If you have a countermarch loom, with a special tie-up you can weave with a

◆ COMPLEX LOOMS ◆

double shed which can extend the pattern possibilities in a number of directions. Also by adding long-eyed heddles on some looms, you can remarkably expand your pattern capabilities, equivalent to having many more harnesses.

Some weavers add complex loom features to their looms—such as loom extensions or more harnesses—by having them made or by making them themselves. This may be necessary on old looms where parts are no longer available, but you should know what you're doing before you proceed or you may end up not accomplishing what you had hoped to and having it cost as much or more than equipment produced by a reliable manufacturer. If you are making just one of something and paying retail prices for supplies to build it, you may not come out ahead of a producer who is buying wholesale and building in multiples. Are your dimensions accurate? Do you need special tools? Can you buy or forge the metal parts you need? Will it work when it is finally assembled? Still, you may be lucky to find a complex weaver with the expertise to help you think it through.

If you think you may want more harnesses later on your loom invest in one that has add-on features. Floor looms can be purchased with up to 32 or even 36 harnesses with an equivalent number of treadles plus two. If you weave with 16 harnesses or more you may want to add on a dobby mechanism to simplify the treadling. Treadling 14 treadles on a 12 harness loom is possible with a bit of stretching but treadling 34 treadles on a 32 harness loom is something else indeed! With a dobby system even 64 treadles per tie-up sequence, can be pegged on bars at the side or the top of the loom (easier than with cords under the loom) and activated by one or two treadles which replace all those other treadles. In addition you may become interested in computer-assisted weaving as well as the use of computers for design purposes.

This brings up another frequently asked question: Do you need a computer for complex weaving and designing? The answer is definitely *no*, but it can make both processes speedier and more efficient. That's why computers and the weaving

software are so popular, comprising the fastest growing segment of the complex weaving field. Some weavers are not interested in computerizing for any aspect of their work. Some computer owners are so busy using them for other things they never get them hooked up to their looms, even if computer and loom are compatible (not all are). Some weavers only do their paper work for their weaving business on computer. Some design programs and build files for their own use, while others design programs which are shared with guilds and other weavers. Computer or not? It all depends on what's right for *you*.

Other options available on some looms which can speed up the warping and weaving process include a warping reel system and an automatic warp advance system. If you want to weave a wide variety of fabrics you'll want a loom which is versatile. On the other hand, if you have a special devotion to a particular complex weave there is probably a loom which will best fit your needs, for example a drawloom for weaving damask.

I can hear you thinking that this is a lot to consider. Perhaps you're wondering how you can evaluate so many looms and so many options from so many sources. If you are in the market for a loom now but are not yet interested in complex weaving or you are interested in increasing your weaving capabilities but your budget is limited, consider a basic loom with add-on features. There is a remarkable difference from one manufacturer to another and from one loom to another by even the same manufacturer. On one loom it would be impossible to add on a second beam; on another loom it would be easy to add on a dobby unit. Watch the ads in *The Weaver's Journal* and other magazines. Take a close look at conferences at all looms and their options. Weave on all types of equipment. Talk with lots of weavers, dealers and manufacturers, ask lots of questions, find out what they like and use and recommend and why. Read all the literature you can get your hands on for all complex-related equipment, comparing the prices and translating the jargon, then look/compare again. A feature which one person treasures may be just an expensive add-on for another. Since complex looms are not common in some areas, ask manufacturers for the nearest demonstrators to you; some have lists of owners and are willing to share them with interested weavers. It is well worth trips to see these looms at work and discuss pros and cons with weavers who own them.

This brings up an important concern for many complex weavers: Where are other complex weavers? What equipment do they use? What are their special interests? Where and when can you meet with them? How can you share and exchange information? What reference materials will you need for this weaving and where can you locate them? Where can you locate patterns and drafts? If you haven't yet

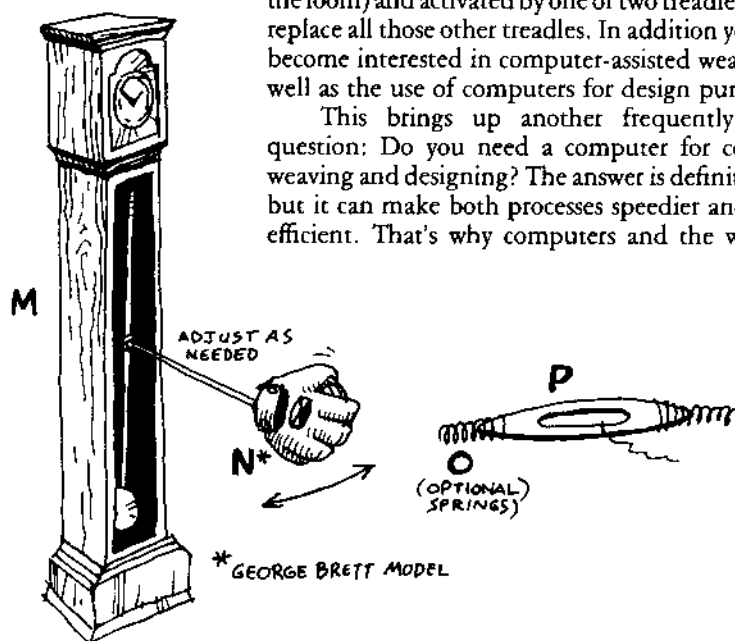
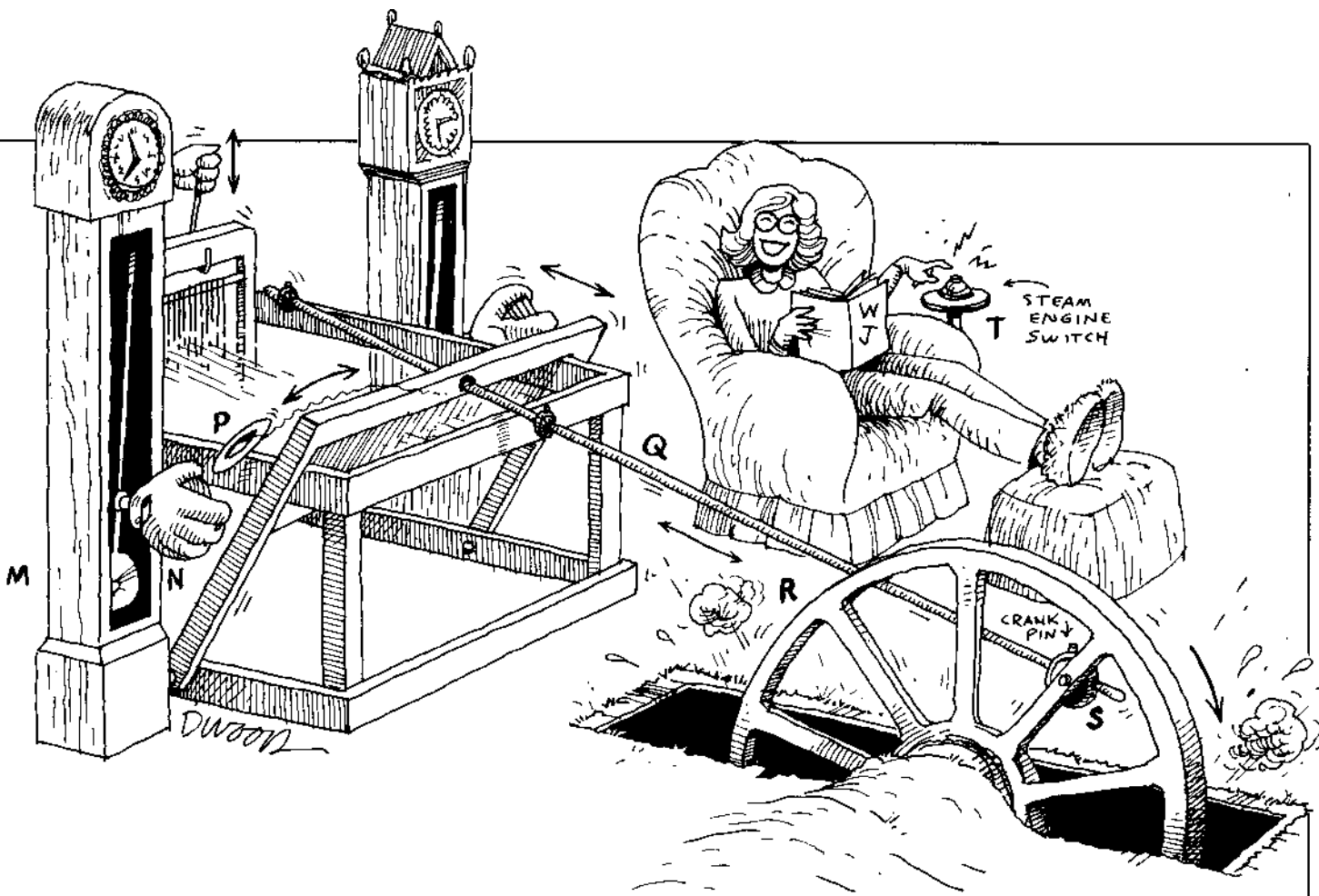


ILLUSTRATION BY DAVE WOOD



heard of the *Complex Weavers* and what they are busy doing, you'll be delighted to know that they have addressed all these concerns and many more. This large group publishes a newsletter three times a year which includes articles on complex weaving and group activities, publishes an annual directory of all their members and equipment and special interests, plans interest group meetings at area conferences and has compiled a large and growing bibliography of books and articles on complex subjects. Topical study groups and a swatch exchange are also active components of the *Complex Weavers*. Members include not only intermediate and advanced weavers, but also beginning weavers with an interest in complex weaving and equipment. To join send \$6 for annual dues to Susan Gustafson, Box 345, Poplar, Wisconsin 54864 with your name/address/phone and a brief resumé of your interests and weaving equipment.

One way to "try on" complex weaving to see if it "fits" is to invest in a multiharness table loom. These can be obtained with up to 16 harnesses and are not as big an investment financially as a multiharness floor loom (nor as overwhelming as a bigger loom can seem). A table loom is excellent for experimenting with many of the complex weaves. Since each hand lever is tied directly to each harness you see the warp and weft threads interlace as you lift each combination of harnesses. This first-hand experience often helps in understanding more readily how these structures form. (Treadles are once-removed and a dobby twice removed from

your direct intervention.) Design changes are simpler on a table loom (no treadles to retie and no bars to repeg) which encourages you to try new things. Later, after you invest in a complex floor loom, your table loom will continue to be valuable to you as a sampling loom. Once you've "got it right" and ready to weave, on a bigger scale the efficiency and speed of your floor loom will serve you well. If you have a complex floor loom, you may find that sampling is tying it up when you want it free for projects and that you're wasting more warp in sampling on the bigger loom. If you're a beginning weaver with a new complex floor loom who has bought your "ultimate loom" now for your projected needs "forever," you may find that a table loom is an additional accessory which can help you to analyze and study basic and complex weaves as well as to sample for large-scale projects. Can you afford to get one? Ask yourself if you can afford not to get one. It will pay for itself in time just in saved warp alone.

Is it hard to warp and weave with more harnesses? If you can put a warp on a 4 harness loom you can put one on a 16 harness loom. If you can thread a warp through 4 harnesses you can thread a warp through 16 harnesses. If you can weave a 4 harness weave you can weave a 16 harness weave. The basic skills are the same, only more harnesses are involved. Expanding from a few harnesses to many harnesses or to a loom with specialized features doesn't mean starting all over again as a beginner,

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Looming Thoughts

by Allen A. Fannin

THERE WAS A TIME in the not-too-distant past when the questions of “what is hand-spinning?” and “what is hand-weaving?” were not even asked, much less debated. Definition was not a problem when the hand process was the only method employed to produce cloth, and cloth was, with extremely rare exception, the only product desired. Semantically, definition is that which separates, delineates and distinguishes one entity from another allowing clarity of perception. With no definition, an observer can never be sure of—and therefore dependent on—the truth of that which is perceived. Where there is only a single entity in a class, definition is a problem of less critical proportions. On the other hand, when two or more concepts must somehow be distinguished from one another (at least operationally) the difficulties can be overwhelming. Yet the difficulties the world encounters when definitions are absent or, worse, cloudy and not sufficiently specific, are far more problematic.

Confusion in definitions of handspinning and handweaving which has persisted for as long as the modern revival of these two pursuits, has never shown clear signs of being rectified. A great many influences have impinged on the crafts of weaving and spinning in ways in which one is often unaware. These influences impede efforts to clarify just what is and therefore what is not handspinning and handweaving. Doubtless, no one will dispute that the world, through increasingly greater cultural amalgamation, has become less compartmentalized. At the same time, we are all experiencing a certain degree of semantic laxity in much of our communication activities. This generates a climate contrary to defining things clearly if at all. We are still reeling from the loose semantic atrocities of the 60s in which ambiguity and imprecision of the language was taken as a mark of freedom and liberty.

The art world, having usurped the province of craftwork, has contributed its share to the dilemma handloom weavers and, to a degree, handspinnners face in defining what they do and who they are. At one time it appeared that everyone knew what did and did not constitute “art.” There was no adversary dichotomy between art and craft as some try to maintain today. Art was, by definition, well crafted and craftsmanship contained elements of artistic integrity that were subservient to but nevertheless supporting of an object’s function. Now, however, when miles of fabric fencing classifies as an artwork because it is *temporary*, one cannot but wonder and finally conclude that the hand textile trades we practice today are guilty of the same

loss of definition if for no other reason than by association.

The earlier definitive clarity of handspinning and handweaving extended historically as far back as the pursuits themselves. If one spun yarn, one was a spinner. Likewise, if one wove cloth, one was a weaver. At no time did a question arise of whether one who only instructed others in the practice of these trades could himself be considered a practitioner. Moreover, this observer has yet to see any historical precedent for confusing the definition of the spinning and weaving trades with how they were practiced or on what kind of loom the weaver wove. That is, not until Mary Atwater wrote her classic *Shuttlecraft Book of American Handweaving*. For the first time in any major treatise, the heretofore clear concept of what handweaving is was clouded and the field has yet to return to its former clarity. In one sentence in which goods woven on a fly shuttle loom were taken as not handwoven, centuries of clarity were obliterated. Certainly, from the time humans first passed filling over and under warp to form cloth, there has existed an evolution in the cloth making process which did not confuse the definition of that process. It was apparently only when spinning and weaving became totally mill operations and when modern handspinnners and handweavers, feeling a lack of identity, groped with who they were and what they did that the clouds settled in. Previously, no one would have dared to consider goods woven on a fly shuttle as less “handwoven” than the same goods woven with a shuttle thrown directly from the hands of the weaver. It is interesting to note that this thesis was never carried further to consider how the warp was made or how the filling was wound. While confusion began to develop in the fabric weaving process, there were other forces at work in the art world that were focusing attention on the result of that process with the appearance of “objects” of sculpture that one might be hard pressed to class as either weaving or as fabric. The term “objects” applied to these items serves quite well as an indicator of the semantic paucity and clouded definition of which I write. Lest the reader stop short at this point and infer a value judgment is not implied or intended, I would caution that my aim, quite to the contrary, is only to show the confusion in definition under which the textile crafts suffer and not to impugn the pursuit of artistic self-expression that happens to use fibers as its medium.

To best see the confusion facing the modern handloom weaving and handspinning situation, it would be useful to concentrate principally on technology and technique rather than on that which is produced. Of

greatest importance is the clear fact that except in very special instances, one cannot reliably discern the level of technology from its result. I have indicated on many occasions that any number of picks in a piece of woven goods done with a fly-shuttle is totally indistinguishable from the same number of picks woven with a shuttle thrown directly by hand. Moreover, most of the "hand" woven cloth seen during the modern revival could quite easily have been produced by motor power. Likewise, given modern spinning mill technology, the difference in appearance between hand and mill spun yarns increasingly defies detection. While a strong case can and should be made to justify as handspinning and handweaving that which could be powered otherwise, the limits of the present discussion dictate laying this point aside for now.

I once engaged in a fabric analysis with a very knowledgeable textile curator regarding the question of whether a particularly complex and fine piece of antiquarian jacquard doublecloth had been handwoven. Somewhat to our surprise (though not for long) the comment from the curator was, "So what?" This began a long and involved thought process leading to the realization that the mere fact that a fabric is woven by one form of power or another is of far less consequence than many people still feel it to be. Yet, are we not placing a greater or lesser value on that which is called handwoven compared to that woven by any other means?

The principal fact of this matter which adds great complexity to a question that some mistakenly take to be very simplistic, is that yarn- and cloth-making operations, are multifaceted, however they are done. These operations consist of many independent yet inter-related sub-processes. Making yarn consists of much more than spinning at the wheel, and making cloth consists of much more than shuttle throwing. It is essential to our understanding that we recognize the vast number of and the importance of the processes that are preparatory to what occurs at the wheel and the loom. Therefore the very basic question that must be asked and hopefully answered in some way, is: just which and how many of all these processes must be done by hand for the final result to be defined as hand made? For example, there are those who would not consider yarn spun from woolen card roving as handspun even though the operation of the spinning device and the hands of the spinner each function in their own way regardless of the fiber arrangement. Thus, when yarn is spoken of as being handspun, discounting any assumed value placed thereon, one could rightly assert that the invention and intervention of a device such as a spinning wheel does

introduce a machine element that could, in strictly logical terms, render moot the "hand" portion of the nomenclature. If, again, one were to be logically correct, yarn that is "handspun" is that which is twisted totally in the absence of any mechanical device. Thus, yarn so twisted could correctly be called handspun even if the fiber supply was the same woolen card roving that in some minds serves to declassify yarn as handspun. The difficulty with the current use of the term "handspun" as a yarn descriptor is that it all too conveniently ignores the role of fiber preparation in the making of yarn.

Weaving likewise presents the same difficulties in logic, for despite romantic objections to the contrary, any but the most technologically primitive loom is a machine. The only mechanical difference between a so-called handloom and a so-called power loom is the source of power. Both looms are, strictly speaking, power looms, one being electrically powered and the other powered by human calories. There the essential difference ends. The most accurate nomenclature defining the loom of the handweaver is that of the late Edward Worst, who titled his excellent book, *Foot-Power Loom Weaving*. We can only speculate whether Worst intended to differentiate between essentially two kinds of power looms rather than between one power loom and one "hand" loom as is erroneously done now. At this point we are once again forced to accept as truly handwoven only that which is woven without the intervention of a machine, regardless of how that machine is powered. This means seeing what are called handlooms as machines, furniture-like at times though they may be. This is something most weavers have yet to do.

Nevertheless, we still have the terms *handspun* and *handwoven* in our vocabulary and the question of clarifying just what handspinning and handweaving are still remains. Many minds have spent many hours on that question. Certainly more than one guild committee has wrestled with defining "handwoven" as it applies to an exhibit or to guild ratings for members. In addition, witness the conflict caused by the entrance of hand-machine knitted items. The question as it relates to certification programs is of extreme importance nationally, given the often lucrative use to which a certificate is put. I emphasize again that the definition of handspun and handwoven cannot be inferred from the yarn and the cloth. Too often one hears the comment that this or that yarn or cloth ". . . doesn't look handspun . . ." or "doesn't look handwoven," while at the same time the statement's maker rarely offers any idea of how handspun or handwoven should look.

The difference in appearance between hand and mill spun yarns increasingly defies detection.

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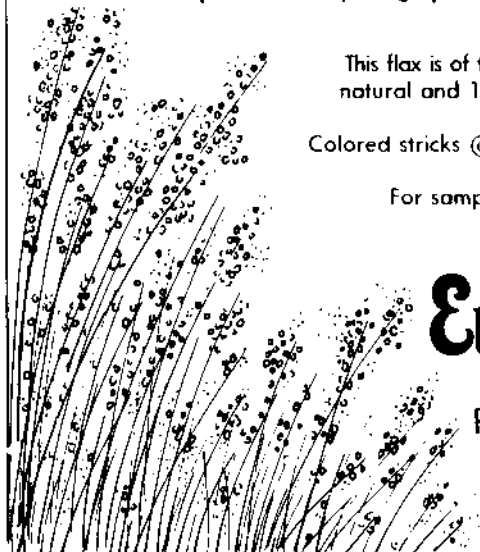
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Obviously, the basis of such a statement lies in the confusion between how something looks and the mechanical means of achieving that look.

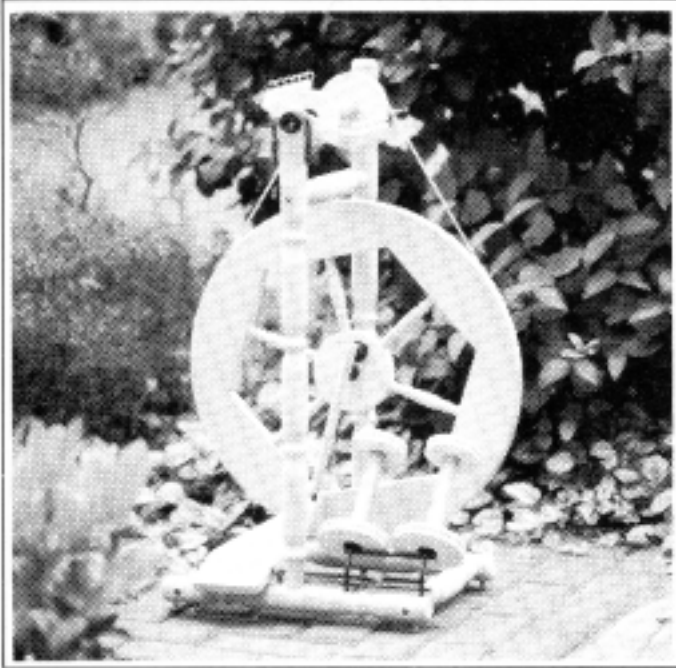
Finally, as an attempt at answering some of the difficult questions raised here, I refer again to the curator's comment, "So, what?", and ask how much does it matter what the mechanical means is for making a particular piece of yarn or fabric? Regardless of that mechanical means, it is this writer's position that the result is far more significant than the means and that result need never be justified, amplified or valued by one means over another. It would seem that better use of our collective intellectual energy would be made if we wasted less of that energy in maintaining what is at best an artificial distinction between the textile crafts trades and the same trades as practised by the largest mill complex in the world. Taken in a much larger context, the matter of definition in handspinning and handweaving becomes less academic. We need not consider each of these terms as single terms, but as collective terms representing any number of related processes each of which can be done in any number of ways. Thus we might be relieved of the burden of allowing, for example, the mechanization of one process from coloring the definition of the collective term. If we elect for whatever reason to card fiber into roving and if we wish to consider yarn spun on a wheel as handspun, then the fact of mechanical fiber preparation will not change that handspun designation.

On those few occasions when I have found it necessary to reply to questioning about our own operating definition of "handspun" and "handwoven," much to the chagrin of the questioner, I refer to David Pye's book, *The Nature and Art of Workmanship*, where he asks in the heading for the third chapter: "Is anything done by hand?" (q.v.)

Kind regards and thanks.

© 1985 Allen A. Fannin

The Weavers Journal is aware that some of Mr. Fannin's views may be controversial. We believe that controversy and the lively discussion that can result from it is beneficial to our field. We invite response from our readers.



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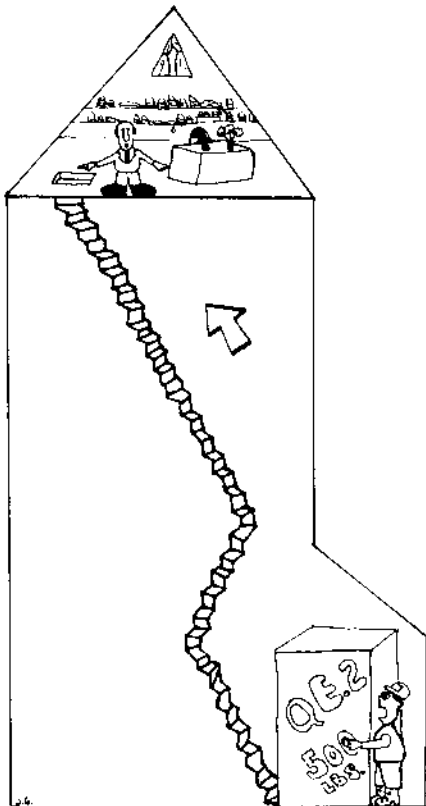
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A Modern Loom from Medieval Sources

by *Andrea Cesari*



LIZABETH ZWANZIG took up tablet weaving and graduate work in medieval studies at approximately the same time. Her loom a reproduction of a medieval tablet weaving loom, is the result of her interests in these two areas. She had not been weaving very long before she discovered that the backstrap method of tablet weaving had several drawbacks. The telephone usually rang shortly after she had tied herself to the dining room table. It was difficult to store a work in progress without jumbling the cards or the warp, and a long session at the backstrap loom

tended to bring on a backache. Since tablet weaving is the only weaving that Elizabeth does, she has no other looms available that could be used to support the cards.

Many of the tablet weaving looms used around the world require more space than an apartment dweller can provide, or they require that the weaver sit on the ground, which is not always a comfortable position for Westerners. Two fifteenth century French manuscript illuminations that Elizabeth examined provided her with an alternative. These illuminations show the Virgin Mary working at a tablet weaving loom that consists of two uprights set into a crosspiece. The earlier illumination, dated about 1407 A.D. shows a slightly smaller loom than the later illumination, which is dated about 1420 to 1430 A.D. The major difference between the two looms is that the later loom features an upper crosspiece, which probably prevented warp tension from drawing in or twisting the uprights.¹

It is difficult to say if the loom really existed. Although manuscript illuminators made extensive use of artistic license and embellishments, their portrayal of everyday objects was generally quite accurate.² It seems likely that the loom pictured in the manuscripts was common enough for the illuminator to have seen one in use. On the other hand, the artist may have adapted a similar loom to the requirements of the illumination, for example, a loom that stood on a table was given legs and made into a floor loom, dimensions altered, and so on, all in the interest of composition. It is also possible that one artist copied another's work—a common practice among manuscript illuminators.

Elizabeth's studies convinced her that the loom had actually existed in Western Europe in a form similar to that shown in the illuminations, and when her friend Chuck Bennett offered to build one for her, she



ANDREA CESARI

Airmid Godwin (Elizabeth Zwanzig) seated at her card loom.

immediately accepted. In designing the modern loom, she and Bennett decided to add tensioning devices on the uprights. The design for the tensioners was taken from a traditional Moroccan design for a tablet loom cloth take-up device. Elizabeth's loom is an interpretation of the original, rather than a replica. This has allowed her to have a loom she enjoys using, and Chuck could use construction and design techniques with which he was familiar.

Materials and Measurements

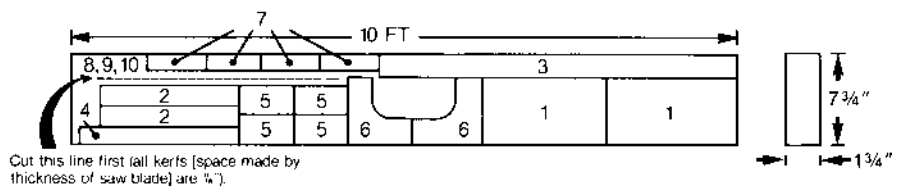
The loom is about fifty inches high and the base measures approximately 18 inches by 55 inches. Oversize mortise and tenon joints with tapered shims make assembly and disassembly easy as well as allowing the wood to shrink or swell with changes in the weather. The longest piece measures 45 inches, and the whole loom can easily be loaded into a relatively small car. It is made from red oak. Any hardwood can be used; it is preferable to softwood which can warp and does not take finish very well. The loom was cut from one piece of oak measuring two inches by eight inches by ten feet. All four sides of the piece of lumber should be finish-planed at the lumber yard, which saves the time and effort involved in finishing a rough-cut board. With some adaptations, the loom could be made entirely with pre-cut lumber. For the tensioners and for pinning the base pieces and tensioners together, three sizes of dowel were required: 1/2 inch diameter by 36 inches, 3/8 inch diameter by 18 inches, and 1/8 inch diameter by 12 inches.

Before any further cutting or assembly, uprights, base pieces and crosspieces were given a 1/2 inch wide, forty-five degree bevel. All pieces were then sanded, starting with coarse and finishing with extra-fine abrasive paper.

Construction and Finishing

Construction began with the uprights, which had tenons cut into the bottom and holes drilled for the tensioners. After the top crosspiece was mortised, Chuck glued and pinned together the base assemblies, which were then mortised. The tensioners were then assembled and pinned into the uprights. Finally, shims were cut for the uprights and top crosspiece. The loom was finished with a handrubbed oiled finish (boiled linseed or tung oil) using the traditional woodworkers'

CUTTING PATTERN



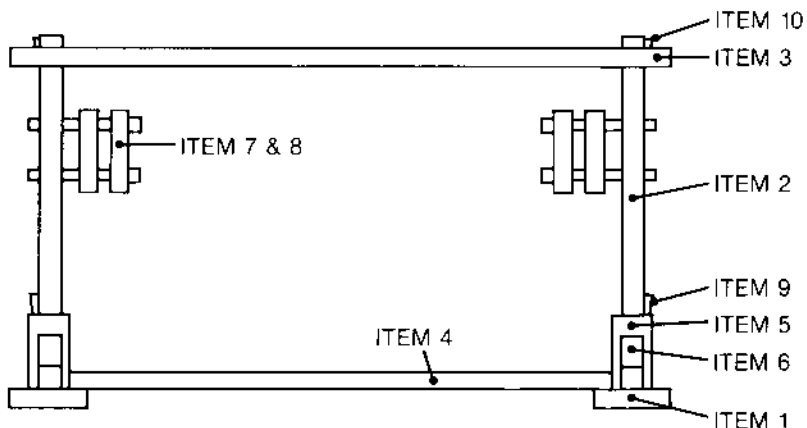
scheme of one coat a day for a week, one coat a week for a month, and one coat a month for a year. Approximately sixty hours were needed to build the loom entirely by hand. Using power tools, Chuck estimated it would take approximately six to eight hours to build.

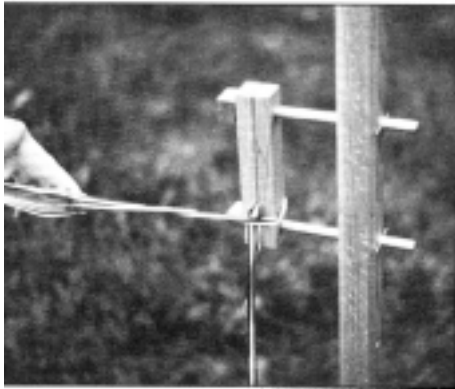
Warping

Using the loom is quite simple. To begin with, the loom becomes its own warping frame. To warp the loom, Elizabeth positions a small table or chair next to the left upright, on which she places her cones of yarn. Picking up the first color, she walks around the loom the number of times required to give her the length of warp she wants. She sets this color down and then winds on the next color required on the first card. After winding on all the threads required on the first card, she crochets a thread around the ends for that card. Elizabeth uses four-holed cards, so she crochets four ends together. She continues in this manner until she has wound on all the ends required. At this point, the ends of the warp are cut and one end of the warp is passed through the right tensioning device to within about two or three feet of the other end. This end is then draped over the top crosspiece.

For a simple card weaving project, see "Finishes/Shared Traditions" on page 21.

ASSEMBLY DRAWING





Detail of card weaving on loom showing warp threaded through tension devices.

Threading

The next step is threading the cards. Elizabeth lays the cards face down in a stack on the table with the first card on the bottom of the stack and the last card on the top. She releases the last group of four threads from the crochet chain and threads them through the last (top) card. This card is then placed face up on the table. Each succeeding card is threaded and placed on the previous card until the first card is reached. This method of threading virtually eliminates tangled warp threads.

At this point, Elizabeth slides the pack of cards up the warp (toward the right upright) and fastens the left end of the warp through the left tensioning device. The warp now lies smooth and is evenly tensioned. If there are tangled or loose threads she secures the cards with a rubber band, undoes the right end of the warp, clears the problem and refastens the warp.

Weaving

After winding her shuttle, Elizabeth is ready to weave. She sits facing the loom and weaves from left to right. On this loom the top surface of the weaving faces the weaver, while the "front" face of the card pack faces the ceiling. This means that the shuttle is passed through the shed in an up or down motion. This may seem very awkward to a weaver used to conventional looms, but it is in fact quite comfortable.

When the weaving has progressed to a point where the cards no longer turn freely,

she moves the warp through the tensioning devices from right to left. For patterns in which the cards are turned in only one direction and twist builds up in the warp, it is quite easy to release the right end of the warp, undo the twist and refasten the warp. There is generally about ten inches of waste on either end.

The medieval illuminations show the weaver using a sword beater and a comb. Instead of a beater, Elizabeth uses a belt shuttle that doubles as a beater. Since Elizabeth does not work in exceedingly fine threads or very wide warps, she has not found it necessary to use a comb.

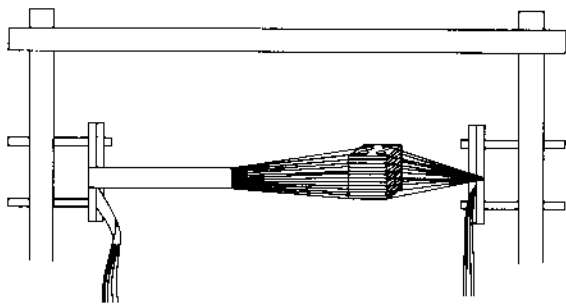
The medieval card loom is not for the casual tablet weaver. Weavers who have other looms that can be used to support the warp may not be interested in this loom.³ For the serious cardweaver or anyone else with an interest in historical textile artifacts, though, this loom would be a fine addition to the studio. It is exciting to use such an elegant piece of weaving equipment which has over five hundred years of history behind it, yet is virtually unknown in the modern world.

Notes

1. Virgin Mary tablet weaving, from the *Book of Hours of Duke John of Bedford*, 1420-1430. (Österreichische Nationalbibliothek, MS 1855, fol 25). Collingwood, Plate 13; and Virgin Mary tablet weaving from a book of hours dated ca. 1407. (Bodleian Library, Oxford, MS Douce 144, fol 19). Collingwood, Plate 14.

2. See Marcel Thomas's *The Golden Age. Manuscript Painting at the Time of Jean, Duke of Berry* (N.Y.: George Braziller, 1979), p. 72, for illustration of other textile tools and processes.

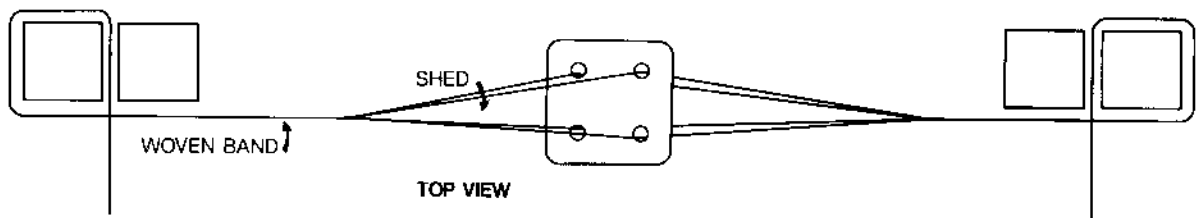
3. I have had good luck using an oval hoop quilting frame on a floor stand, and simply tying the ends of the warp onto the hoop.



"Tablet Weaving" by Zwanzig and "Medieval Tablet Loom Construction" by Bennett are available from Andrea Cesari, 831 Walnut Street, Allentown, PA 18102.

Bibliography

Brown, Rachel. *The Weaving, Spinning, and Dyeing Book*. New York: Alfred A. Knopf, 1980.
Collingwood, Peter. *The Techniques of Tablet Weaving*. New York: Watson and Guptill, 1982.
Godwin, Airmid [Zwanzig, Elizabeth]. "Tablet Weaving." c. E. Zwanzig, 1984. photocopy.
Gryphon du forte epee [Charles Bennett]. "Medieval Tablet Loom Construction." c. C. Bennett, 1984. photocopy.



These show the path of the warp and finished weaving through the tensioning devices.

WHenever I am at an exhibition of folk textiles and/or costumes, my eye is immediately attracted to the exquisite finishing details used on the finely crafted pieces. This was certainly the case when I attended a recent exhibition of Latvian folk costumes and mittens at the University of Minnesota's Goldstein Gallery.

As a card-weaving enthusiast as well as being interested in finishes, I was delighted to see many of the capes and garments embellished with card woven bands. Elaborately patterned bands trimmed the edges of vests and cloaks, other simpler bands were woven as fringes to trim capes and shawls.

The card woven fringe embellishing Mrs. Gaida Inde's cape requires only eight cards and uses the four predominant colors in her costume: red, yellow, green and indigo.

Latvian costume, hand-woven and embellished with card-woven trims.



Detail of card-woven fringe on cape.

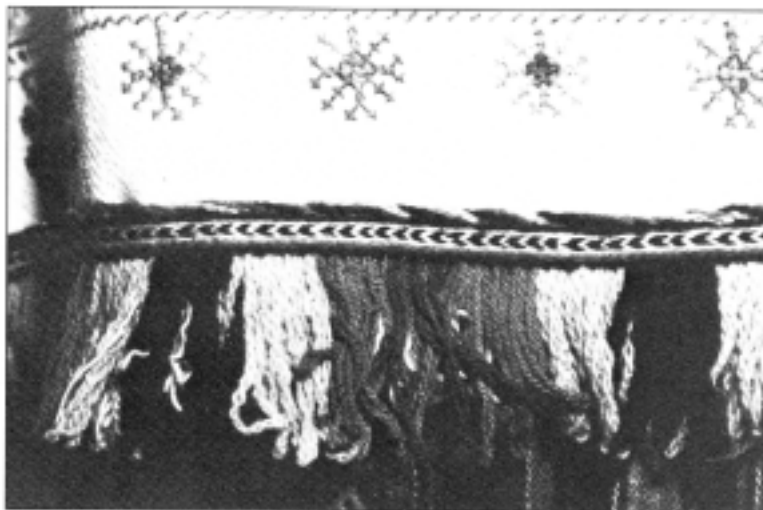
Card Woven Fringe

The

A	B
D	C

's for the Beginner

by Karen Searle

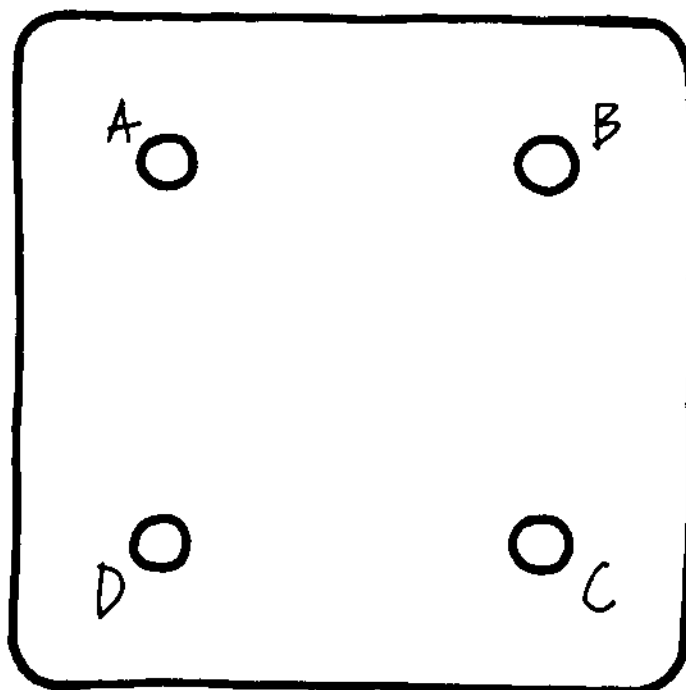


Directions

Determine the length of the band you wish to weave, and add 24 inches for warp waste and take-up. Measure and cut 12 ends of yellow, 8 ends green, 4 red and 4 blue, according to the draft. Each vertical row of the draft shows the colors that should be put into each of the four holes of one card. The holes are designated A-D; the cards are numbered 1-8.

Thread 4 indigo ends into the first card, inserting the threads from the printed side of the card (from front to back, indicated by \). The next card will have four yellow threads inserted from the opposite direction— from the blank side of the card (from back to front /). Thread the remaining cards according to the draft, changing the direction of threading with each card.

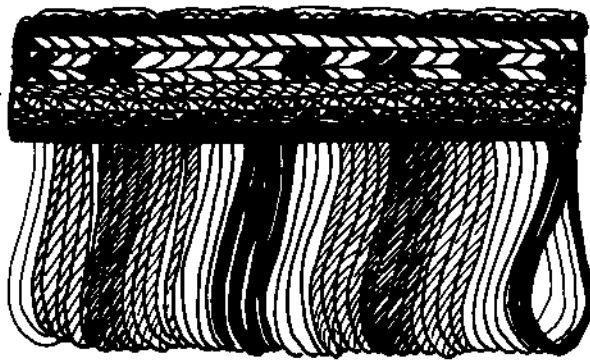
Knot the threaded warp ends together and attach this end of the warp to a fixed point. This can be a loom-beam or a card loom such as the one Andrea Cesari describes in her article in this issue of *The Weaver's Journal*. Straighten the warp by grasping the group of cards and pulling them gently toward you until the cards are within 12 inches of



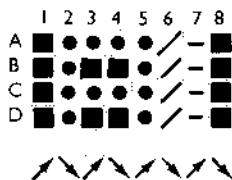
Pattern for weaving card. Trace and cut out of stiff cardboard.

◆ FINISHES/SHARED TRADITIONS ◆

Fringe woven with 8 cards

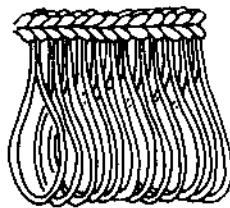
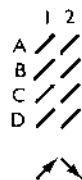


draft 1.



■ indigo
● yellow
/ green
— red

draft 2.

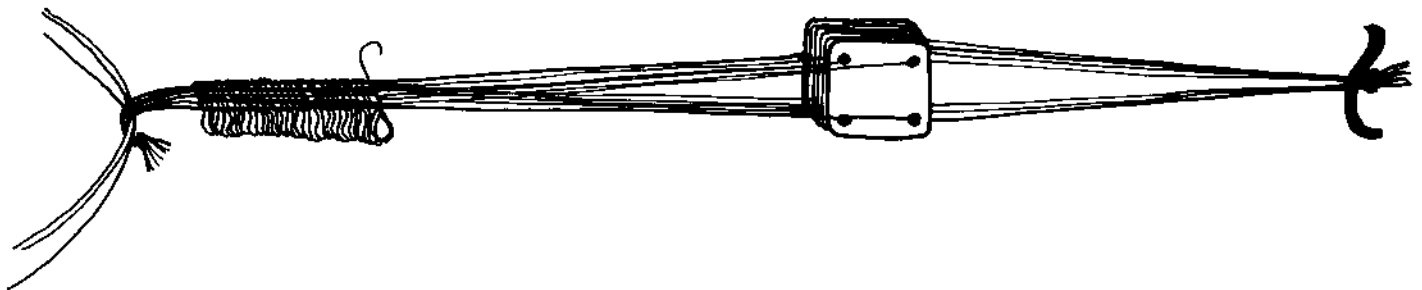


Two card fringe

the free ends. Straighten these ends and knot them together. Tie the knot to your belt or around your waist, or tightly to another fixed support or loom beam. Now you are ready to weave.

This pattern is woven by turning the cards in one direction only. Each quarter-turn of the cards produces a shed, and four quarter-turns produce one weaving sequence. The A-B holes at the top of the cards can be considered "home" or starting position, and turning sequences are counted from there. Mark this position with a line across the tops of the cards, if you wish.

Card weaving in progress. Far end of warp attached to fixed point, near end to belt.



Turn the cards one quarter-turn away from you and insert the weft. Turn the cards the next quarter-turn, beat the first weft pick and enter the weft in this new shed, leaving a loop the desired fringe length. A stick or piece of cardboard can be used as a gauge for the fringe loops. Repeat for the next two turns of the sequence. Continue weaving by turning the cards away from you until half of the band is woven. Then reverse the weaving by turning the cards toward you each time. This will remove the twists put into the warp during the first half of the weaving.

If a sticky wool is used, the edge of the band next to the fringe loops will hold its position fairly well. A more secure selvedge can be obtained by using a second fine weft in each shed that secures the band selvages and is not used in the fringe loops. This is the method used by Latvian weavers.

Mrs. Inde's fringe has two strands of fringe weft for fuller fringe. She also used her four warp colors in sequence for the fringe weft. On the selvedge side of the band, the three colors not being used as weft are twisted around each other each time the weft color is changed. This gives a scalloped effect to the top of the fringe band. Using a slightly overspun yarn as fringe weft will cause the fringe to "ply" itself.

Cards 2-4 of this draft would make an attractive fringe band with just two colors. A single-color card woven fringe on a Hungarian costume that I examined recently at the Museum of International Folk Art in Santa Fe, New Mexico, used only two cards to anchor the fringe wefts for a very simple, but elegant effect.

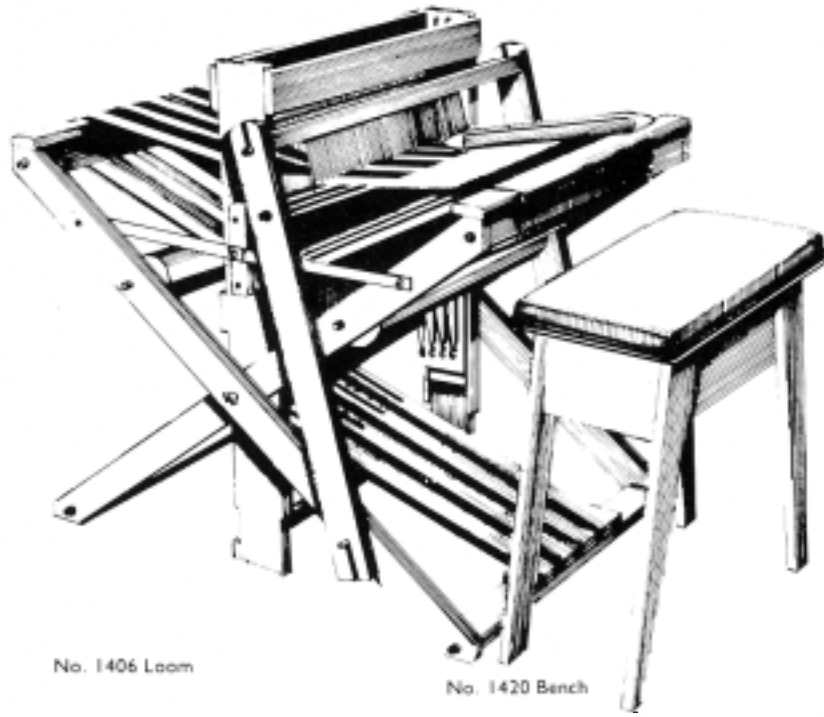
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A collection of fashion sketches by Barbara Roche. At the top, two figures are shown from the waist up, wearing heavy winter jackets. Below them, two larger, more detailed sketches of women's faces and upper bodies are shown, also wearing winter attire. The sketches are rendered in a fine-line, cross-hatched style. A solid orange horizontal bar is positioned above the top sketches, and a purple triangle points towards the bottom left of the page.

Winter

by Susan Hick

Illustration by Barbara Roche

THE UPS AND DOWNS of the fashion business are certainly well illustrated this Winter.

Hemlines are up and down this season. They either flirt with the knee or fall to mid-calf. There's nothing in between, according to designers' dictates. Short skirts are slim, while long ones are fluid circles, pleated or gored.

Jackets, on the other hand, have many more personalities. Lengths vary from cropped above the waist all the way down to covering the hips. The longer jackets are more fitted by being nipped in at the waist. Baseball, Nehru, blouson and hacking jackets are all possible shapes. Wrap one like a surplice, add wider lapels, use a shawl or mandarin collar or none at all.

Generally the short jackets are shown with long skirts and long jackets with short skirts, but these rules aren't written in stone.

All look great with pants, too, and this category has enough variety that we don't need to clean out the closet and start all over. Pants may have classic cuts or be second-skin snug. They may be pleated. Legs are mostly

Barbara Roche

slim. Even the most tailored can have stirrups. Jodhpurs and ski pants are the extremes. Lengths are everywhere, from cropped to covering the ankle.

Coats are still capacious, another reason to give thanks, although you're quite welcome to cinch in last year's big coat. If you need a new one, try a cape coat; it has sleeve-like extensions that are fitted only at the wrist. A sleeker model of coat might have a scarf attached instead of a collar.

Big Shirts and Big Sweaters abound. The shirt can be tucked in but are better with tails exposed and worn under a shorter vest or jacket. Variations of this include shirttail hems on tunics and sweaters. Sweaters have novel intarsia (inlaid) designs. Stylized flowers, Nordic snowflakes, and Persian geometrics are used.

Even though knit jersey is touted for day-into-evening dresses, it's heartening to observe the influence of handwovens in other Winter fabrics. Texture and combinations of fibers, especially luxury ones, produce the important sheen-against-matte effects. Metallics are incorporated for evening.

Plaids and checks dominate the scene. These are mixed in an unorthodox manner with tapestry and upholstery florals and paisleys. A jacket with a plaid body might have floral sleeves. A paisley skirt might be teamed with a houndstooth jacket. Just two of the more sober colors from the print are picked for the other fabric, thus keeping the outfit from becoming really outrageous.

Plaids and checks can also be combined with one another in different scales or colorations. One costume seen has tablecloth checks of rust and black, raspberry and black, and white and black made into skirt, vest, and big shirt respectfully. Some ensembles use a mix of on-grain and bias cutting. Others, mainly the textured stripes, blend pieces cut lengthwise and crosswise.

To capitalize on both knits and wovens, design them as companion fabrics. For example, a woven windowpane plaid for a coat could be worn over a sweater knitted in the same plaid done on a larger scale and with colors reversed.

Bright colors accent the customary dark Winter palette. It's exciting to get beyond monochromatic.

Whether called purple or violet, it's certainly the color most mentioned. It's put together with others in wild abandon: brick,

turquoise, olive, wine and rust, teal, magenta and green, red, heather brown, spruce, raspberry, caramel, blue and fuschia, orange, gold, and black. Really! Use it full strength, muted, or paled to lavender.

Many of the above-listed colors can be combined without the purple or will stand on their own. If you choose none of those, you might try the rich jewel tones that always sparkle when mixed with black. Safe always are navy, coral, paprika, and mustard. Quieter yet are frosted pastels.

Now we can pick a *Look*.

The first to consider is "Dressed-Up Days, Dressed-Down Nights." This involves wearing during the day fabrics and fibers traditionally associated with evening. A silk velvet turtleneck or some lace lavished at neck and wrist will do nicely. Conversely, keep things simple at night. Gray flannel slacks and a satin shirt, perhaps. No ruffles or bows allowed. Don't overlook a little glitter, though—sequins on a sweater or a metallic pinstripe in the gray flannel. Overall, keep to the classic cuts for this Look.

The Sixties Look harks back to mod minis, skinny tib knits, and ski pants. The Collegiates will top those long fluid skirts with slouchy sweaters. (This is the place for your old letter sweater.) Or their schoolgirl jumpers will be drop-waisted and worn over a camp shirt. Western cowgirls will tuck their jeans into their boots when they're not wearing long fluid skirts; their shirts will be fringed or have embroidered yokes.

Final notes: High waists and wide belts on pants and skirts are definitely in. The fitted turtleneck is back. Simple dresses for evening get their allure from artful draping. Hoods on both dresses and coats are good. Leather and suede are used a lot. The cocoon is a terrific substitute for a big shirt.



A 19th Century Tapestry in Billedvev

by Lila Nelson



Ole Bull

Ole Bull (1810–1880) was a famous 19th century Norwegian violinist and composer who became a U.S. citizen in 1853. He toured extensively in Europe and the United States, primarily performing his own compositions. In 1850 he founded a theater in his birthplace, Bergen, Norway and in 1852 he founded and maintained an unsuccessful Norwegian colony ("Oleana") in northwestern Pennsylvania which lasted only one year.

In 1897 a statue of Ole Bull by Norwegian American sculptor Jacob Fjelde was dedicated in Minneapolis' Loring Park. Ole Bull had given concerts in Minnesota territory in the 1850's.



NELSON CURTIS began his letter of October 1983 to Vesterheim, the Norwegian-American Museum (Decorah, Iowa) with a sentence designed to keep us reading: "My wife is Sylvea Bull Curtis, a granddaughter of Ole Bull." Any reference to that Norwegian violinist of legendary and magical skill was sure to arouse our interest. Mr. Curtis went on to describe a 17th century tapestry woven in the valley of Gudbrandsdal, Norway, which had once graced the walls of Lysøen, Ole Bull's beautiful estate on his private island of the same name off the coast near Bergen, Norway. The large hanging (75½" h × 55½" w), which depicted the Biblical story of the Adoration of the Magi, was now in the Woodbury, Connecticut home of Sylvea Curtis, and she wanted to make permanent plans for its future.

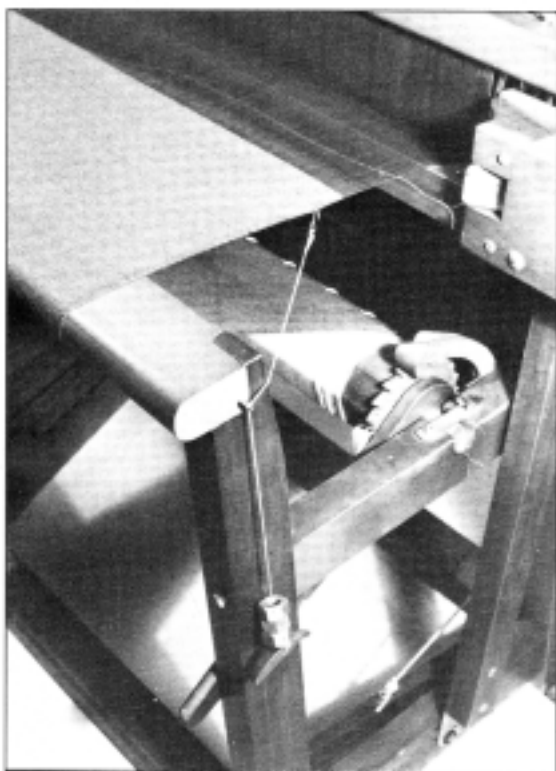
Some months later, after letters, discussions, and a personal visit of the Curtises to the Norwegian-American Museum, the tapestry was donated to Vesterheim. It ranks as perhaps the most important single object in the Museum's extensive textile collection.

Woven on locally produced linen warp with two-ply wool weft from the Norwegian spelsau sheep, the Adoration of the Magi tapestry is typical of a type produced primarily in Gudbrandsdal during the 17th and 18th centuries. Biblical stories were often depicted in a series of four panels held together by a highly stylized border of flowers and geometric patterns or by an octagonal frame of birds and animals. The subjects were treated almost abstractly, filled with design and color in a grand disregard for perspective or realism.

The origin of these tapestries ("billedvev"), in which colors are joined through intricate dovetailing systems rather than the slit technique, is a mystery. Historians speculate that trained artisans from the European continent (particularly the Lowlands) forced by political unrest to search for employment, followed existing roads into the center of Norway and found in Gudbrandsdal a receptive and economically stable rural population. Weaving establishments developed with local professional and semi-professional craftspeople, who turned the continental weaving tradition into something uniquely and delightfully their own.

Simple but Effective— a novel stretcher

by Ulrike Beck



MANY FABRICS can be woven without a stretcher or temple, but others—particularly wool—weave much better with a stretcher. Stretchers come in different sizes. To have the right size for any width is costly. My solution costs very little, maybe nothing at all.

First, screw two hooks or screweyes, one for either side, into the end of your breast beam (see photo). Next, you need two S-hooks or a piece of wire to bend into two hooks. One end of the hooks should be filed to a sharp point. Tie a length of strong cord roughly two feet long to the other curve of the hook. At the other end of the cords tie a small weight: I happened to find small pieces of lead with a holes. On top of the weight, thread several large nuts, which a can be added or removed according to the weight desired. The hook is fed through the screweye on the breastbeam and pushed into the fabric very close to the selvage and also close to the last shot entered. The hooks left and right are moved periodically closer to the weaving line like an ordinary stretcher.

If you fit all your looms with screweyes on the breastbeam you need only one pair of weights on cords with hooks, and you are set for any width you weave. Best of all, your weaving is never covered.



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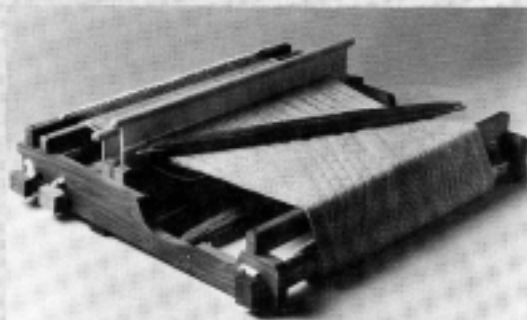
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COMPLEX LOOMS from page 13

just that you're stretching yourself and your knowledge beyond where you are now. Don't let the possibilities overwhelm you, or even the challenges. Think of it as a new horizon which can lead to other new horizons. No one ever really feels they have conquered all the weaves, but therein lies the joy of exploration and discovery!

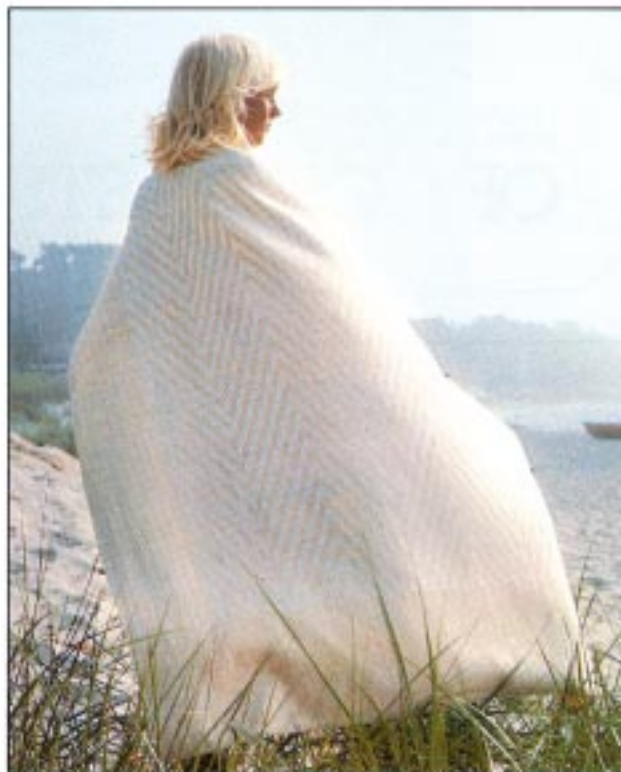
If you decide to make the jump to complex weaving on a multiharness loom now is the time to review the "basics." You will want to become familiar with the basic weave structures on 4 harnesses and 8 harnesses before extending them to 12 and 16 or more. Helene Bress's *The Weaving Book* is an excellent reference for you because she presents many of the basic unit weaves on 4 harnesses, then extends them to 8. Another book you will find invaluable is Mary Elizabeth Laughlin's *More Than Four*. She takes you through many basic weaves, first on 4 harnesses and then 8 plus, and from one layer to more. Buy or borrow Berta Frey's *Designing and Drafting for Handweavers* and have some fun with pattern blocks and profile drafting—they're more fun than crossword puzzles! You'll discover that you can build your own patterns and develop your own profiles easily for original patterns, and that these profiles can be woven as many different weaves. What weaves as a 4-block 4-harness overshot can also weave as a 4-block 16-harness diaper rwill or double weave and also as a 4-block 20-harness damask—all from the same design. Already you are becoming a more versatile weaver and can adapt patterns to your own interests and needs. When you are familiar with these basic concepts and how they can be extended to more harnesses, your new loom will no longer be a stranger, but a friend with which you can travel many miles over many roads. Perhaps we will meet along that same road, or at an intersection—I hope so!

Bibliography

- Bress, Helene. *The Weaving Book*. Charles Scribner's Sons, New York, 1981.
- Frey, Berta. *Designing & Drafting for Handweavers*. 2nd printing. Collier MacMillan, New York, 1979.
- Keasbey, Doramay. *Pattern Devices for Handweavers*. published by the author, Bethesda, MD, 1981.
- Laughlin, Mary Elizabeth. *More Than Four*. Laughlin Enterprises Ltd., Newcastle, CA, 1976.

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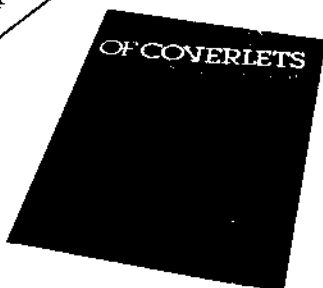
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U type" Navajo sheep called *churro* flourished in the Southwestern United States. This dying breed, noted for its long, coarse wool, once numbered in the thousands. There are now fewer than 500 head remaining.

What were the origins of the Churro? What part did they play in the Navajo cultural development and art forms? Why are they losing their battle for survival and how can they be saved from extinction?

The History of Domestic Sheep in the Southwest

In 1538 the Spanish conquistador Hernando Cortez brought the first Spanish Merino sheep, as well as Churro sheep, to his hacienda at Cuernavaca, near Mexico City. He later distributed them among the missions of Mexico.

In 1540 Coronado brought large herds of *ganado mayor* (cattle) and *ganado menor* (sheep) from Mexico into the United States. These herds helped supply his expedition in search for the mythical Seven Cities of Cibola and were the first animals of their kind to enter into what are now the states of New Mexico and Arizona. Two years later when he departed, disappointed and broken in health, he left a number of sheep at Pecos Pueblo in northern New Mexico with Fray Luis de Escalera, who remained behind to teach the Holy

Faith to the Indians. No later accounts are found concerning these sheep and it is believed that they perished with the zealous Escalera.

Half a century later in 1598, the colonizer Juan de Oñate, came into the Rio Grande Valley from Mexico. He brought with him large flocks of Churro (scrub type sheep) and good Merinos whose descendants remain to the present day in some of the more remote areas of the Southwest. On the virgin ranges of present day Arizona, New Mexico and Utah, these sheep thrived, surpassing all other classes of livestock.

While sheep were the staple product of New Mexico from the time of Oñate to the close of the Mexican War, it does not appear that there was any movement of the flocks (by the Spanish-Mexican settlers at least) westward beyond the Rio Grande Valley. The first drives of sheep into what are



SUZANNE BAIZERMAN

Churro Sheep in the Navajo Tradition

by Dr. Lyle G. McNeal



Churro sheep, U.S.U.
Navajo Sheep Project
flock.

now parts of western New Mexico, Arizona and southern Utah were apparently made by the Navajo Indians. The flocks were probably stolen from the settlements around Santa Fe, Albuquerque, or Socorro. Just when pilfering from the ranchos began is a matter of conjecture. It is on record that Navajos had sheep in the 16th century. The first sheep to be introduced on this continent did not appear in Mexico in any considerable numbers until 1530 or in northern New Mexico until 1598. The Navajos may possibly have obtained their first herds from the Spanish settlers in Sonora or Chihuahua in northern Mexico. It is safe to assume that Navajos began to raise sheep early in the 17th century, and that they have continued to raise sheep ever since, even through the time of the Pueblo Revolt (1680-1692). The favored haunts and grazing grounds where they retreated with their stolen animals after successful raids on settlements were the Chinle Valley and the Canyon de Chelly country in northeastern Arizona.

The settlements of New Mexico thrived, and sheep raising grew with them. The Navajos, quick to sense the value of sheep, looted the ranchos and drove off the stolen herds to their strongholds in northeastern Arizona and southern Utah, where they were

reasonably safe from pursuit. While these raids were resisted and reprisals made by the Mexicans, the war between the two became a standing engagement, continuing until after the United States acquired the territory in 1848.

Sheep provided the Navajos with both food and clothing and provided them an easier and more dependable livelihood than that derived from the uncertain spoils of the hunt. When the members of the nomadic tribe moved from place to place, they took their food and clothing supply with them, on the hoof. The sheep quickly adapted themselves to the changes in climate, altitude, and forage conditions.

Following the conquest of the Southwest by the United States in the late 1840s, efforts were made to end Navajo plundering. Punitive expeditions made by the U.S. Army against the tribe in the Canyon de Chelly country, were, for the most part, fruitless. Treaties made with the Navajos at the time seem to have been lightly regarded, as the looting was soon resumed. The treaties made with the Apaches at about the same time were no more effective.

In the early 1850s both the Navajos and Hopis in northern Arizona and southern Utah possessed sheep in considerable numbers. According to most historians, they were not then good

shepherds. The rams were permitted to run with the flock during all seasons. Consequently lambs that were born in the winter often died. Because of low reproduction and high mortality of newborn lambs, the Navajos continued to raid neighboring settlements to maintain sufficient numbers in their flocks. Thousands of sheep were stolen in these raids: in 1850 a military inspector estimated that the Navajos had taken approximately 47,300 sheep in 18 months from the New Mexico pueblos.

By the early 1860s the Navajos had become a thrifty and independent tribe, devoted for the most part to pastoral pursuits. Their sheep, which at that time probably numbered in the hundreds of thousands, were grazed along the harsh slopes of the Continental Divide, partly in New Mexico but mostly in Arizona. Some of the young braves, however, retained love for the warpath and raids for plunder were frequently made on the white settlements and pueblos. General Carleton's reports on these raids stated that a number of citizens were killed and many head of livestock stolen.

The raids had become so frequent and troublesome by 1863 that General Carleton declared war on the whole Navajo nation. A regiment of volunteers was formed under Colonel Kit

Carson, an old friend of the Navajos who knew exactly how to fight them. He was so successful in storming their encampments, destroying their peach orchards and cornfields, and killing their horses, cattle and sheep, that by 1866, approximately nine thousand members of the tribe had surrendered and were held as prisoners at Bosque Redondo near Fort Sumner, on the upper Pecos River.

The Indians were ordered to report to Carson and surrender. Navajo men were killed on sight; the women and children were seized and held as captives. By the summer of 1865, the Navajos were a broken people. Approximately 8,500 men, women and children, with 2,000 sheep, were rounded up and marched 300 miles to Bosque Redondo where they were incarcerated.

Upon their release from Bosque Redondo following the approval of a new treaty, on June 18, 1868, the Navajos of both sexes and all ages numbered 7,111 persons. Their condition at the time of their return to the reservation was pitiful in the extreme. Steps were taken at once to relieve their distress until they could raise crops and acquire livestock, especially the sheep that had supplied them for years with food and clothing and that they knew how to manage in their own ways.

In accordance with the terms of the treaty, delivery of 14,000 sheep and

1,000 goats was made to the Navajos at Fort Defiance, Arizona, by Captain Frank T. Bennett, agent of the Navajos. Distribution began November 29, 1869 and required five days to complete. The Indians were counted as they emerged from a corral. Two sheep were given to each man, woman and child.

Navajo tradition recalls that Captain Bennett spoke to them at the time the animals were distributed. He told them to take good care of their sheep which, if properly handled, would increase rapidly and provide food and clothing for all members of the tribe. If the sheep were allowed to perish from inattention, all the Indians would be destitute, and there would be sorrow and want throughout the land.

Ordinary native sheep in New Mexico were delivered to the Navajos by the government. War Department records show that these sheep were purchased from Vincente Romero of La Cueva, Mora County, New Mexico. These sheep were the coarse, common, sheep of New Mexico, and descendants of the flocks brought into the Rio Grande Valley by Juan de Oñate near

Churro type ewe from Navajo Reservation, Newcomb area. Note the open, long outer coat.



Churro sheep, U.S.U. Navajo Sheep Project.



Churro sheep, U.S.U. Navajo Sheep Project flock. Note the four horns.

the close of the 16th century. They were unquestionably of "inferior" breeding but were hardy and well-suited to the Indians and to the harsh environment of the country. They were referred to as Churros.

These long-wooled New Mexico sheep had a sturdy ancestry, whether Churro or Merino but through centuries of neglect and lack of care they had degenerated into scrubs. But they had learned to adapt: to forage for roughage, exist on limited water resources, resist storms, and protect themselves and their lambs from predatory animals. These characteristics gave the Navajo and pioneer Anglo-American sheep producers a firm foundation upon which to build a sheep industry still important in the Southwest.

Livestock Reduction— An Anglo Injustice Remembered in Navajo History

Anglo-Americans deplore gross violations of human rights. We have traditionally spoken out as a people and government against those leaders,

governments, and political ideologies that do not grant the liberties and free-agency of people all over the world that we take so much for granted. In recent years, because of our concern for minority rights in America, the Civil Rights Act saw passage. Yet, within the past 30 or 40 years, one of the most devastating attacks on individual and group rights took place on the Navajo Indian Reservation with hardly a whisper of protest in the halls of our national Congress. The Navajo Livestock Reduction Program was a living nightmare to the Navajo people.

Federal agency administrators in general were more concerned about the silting up of the newly built Hoover Dam (Lake Mead and other projects along the Colorado River drainage), and its threatened usefulness to the whole economy of southern California, than they were about the socio-economic problems of the Navajo people and their sheep. The methods that the U.S. government chose for the livestock reduction program, however, were not at all beneficial to the Indians.

Rather than allow the Indians to sell the excess sheep and goats for food,

of the livestock they had held in 1930. This action by the government also guaranteed the Navajo people a bare subsistence economy which persists today.

One must bear in mind that all livestock in the Navajo culture serves a dual role, fulfilling both material and spiritual needs. In Navajo tradition, animals are gifts from the Holy People (deities) and play an important role in Navajo ritual life. The elimination of something that is measured in spiritual as well as material value is traumatic, particularly when those responsible for the destruction are concerned with material resource management rather than emotional or spiritual values.

While it was true that the two different languages involved, English and Navajo, heightened the problems of the reduction program, the major difficulty lay in differences in values. The government was concerned almost exclusively with the preservation of the range and the land—animal balance, which necessitated, in its opinion, massive stock reduction. To the government, the cause and effect relationship between overgrazing and erosion of the land was clear and irrefutable. Since the land was in poor condition from overgrazing, there was but one alternative from an economic and commercial point of view to alleviate the problem: elimination of excess livestock.

On the other hand, most Navajos felt exactly the opposite about the increasing livestock population. They believed that livestock was a gift from the Holy People. The Holy People watched with pleasure and bestowed their blessings—rain and vegetation—upon the increasing flocks of animals. They were glad to see the Navajos care for these gifts and to see the livestock multiply. Stock reduction repelled and shocked all Navajos, particularly when combined with the cruel and inhumane slaughter of these sacred gifts. To them, stock reduction resulted in the Holy People's holding back of the rain. This caused the lack of vegetation, which in turn resulted in the erosion of the land and the formation of gullies. The federal government had again undermined the morale of the Navajos: although they felt that they were doing the greatest good for the greatest number of people, the economic and spiritual good of the Navajos was drastically affected.



U.S.U. Churro flock at Mt. Sterling, winter 1985.

Following the Civil War, Navajo sheep grew in numbers slowly, and in 1935 the United States government decided to help the Indians. The U.S. Department of Agriculture Southwestern Range and Sheep Breeding Laboratory was opened at Fort Wingate, New Mexico, in an effort to study "old-type" Navajo sheep and introduce new breeds to improve the sheep of the Navajos. Unfortunately, because of other economic priorities, the laboratory was closed in 1966, and the animals were disposed of before the mission and objectives of this facility were fulfilled.

At the same time, during the tenure of the U.S.D.A. sheep laboratory in which the government tried to improve the quality of the Navajo sheep, the Navajos were forced to conduct a program to reduce the numbers of livestock on the reservation. There were serious overgrazing problems on the reservation, resulting in erosion and other land management problems.

the representatives of the Federal Government shot thousands of animals and left many of the carcasses to decompose. With very limited dialogue with the Indian tribal leaders, the sheep, cattle and horses were annihilated, at a great financial and cultural loss to the Navajos. Furthermore, the Indians were not allowed to choose which animals should be disposed of and which should be kept. So, indiscriminately, the good along with the bad sheep were killed, instead of keeping the best animals for breeding. Most Anglo-Americans living during this era (1930s to early 1950s) did not even know that this was happening.

The decline in the livestock population continued throughout World War II and until 1952. By then the Navajos had approximately 36 percent

The "Old Type" Navajo Sheep

The "old type" Navajo sheep are encountered now in only a few regions on the reservation. The "old-type" Navajo (Churro) sheep is clean-legged, long, upstanding and narrow-bodied, like the Churro and Tarahumara found in Mexico today. Its fleece consists of a long, coarse outer coat and a short, fine undercoat, with many kemp and medullated fibers which are characteristic of unimproved wool. It is extremely open and contains relatively little grease. Shrinkage, although extremely variable, is lower than that of medium-staple wool from "improved" sheep. Most of the shrinkage is caused by the accumulation of dirt and vegetable matter in the wool. These sheep are very hardy, and the ewes are excellent mothers. Many of the rams possess two well-developed horns, and occasionally four; some of the ewes are also horned.

Introduction of "Improved" Exotic Breeds

Merino sheep were introduced to the Navajo shepherds as early as 1859. In 1883, Merino rams were brought in by Indian agents in the hope that fewer and larger animals could be bred. Unfortunately, it turned out that the cross-bred lambs born were too large for the small Navajo ewes. Even when lambing was successful, the wool had too much crimp and was too greasy to be used in Navajo weaving. In 1903, the Rambouillet was tried with basically the same result. Over the years other breeds have been introduced (Shropshire, Hampshire, Cotswold, Suffolk, Lincoln and others) with the intent of "improving" on the "unimproved" Navajo sheep. The breeds were changed again and again, until presently there are few examples of the "old-type" Navajo sheep to be found.

Present Navajo Sheep Industry

One economic problem resulting from the hybridization of the Navajo sheep is the decreased weaving quality of the wool. It was the intent of the Anglo leaders, both in government and the wool industry, that the Navajos should produce a finer type of wool for Eastern

commercial markets. Much of this emphasis began in the late 1880s and continues to this day. The result was that the type of wool product needed to meet the commercial Anglo market was

in direct opposition to that of the blanket and rug weaving needs of the Navajos.

Thus, as has been the case in the history of this country's dealings with native Americans, the Navajos lost out to commercial interests and greed. The Reservation became (and still is) a melting pot of rams representing many different breeds, or genotypes, of sheep that have contaminated the "old-type" Navajo stock. Today it is evident that most of the stock breeding ewes have an ancestry that would be difficult to identify. The author hopes to continue to identify, catalog, procure, breed back and preserve the remaining "old-type" Navajo sheep specimens. It has been estimated that there are fewer than 500 head of sheep on the Reservation today that show the "old-type" characteristics.



Mrs. Pino, Ramah, New Mexico Navajo Reservation, shown here holding a yei rug which she wove.



Shearing sheep at Navajo Community College, Tsaile, Arizona.

CHURRO to p. 72

Planting a Dye Garden

by Connie Magoffin



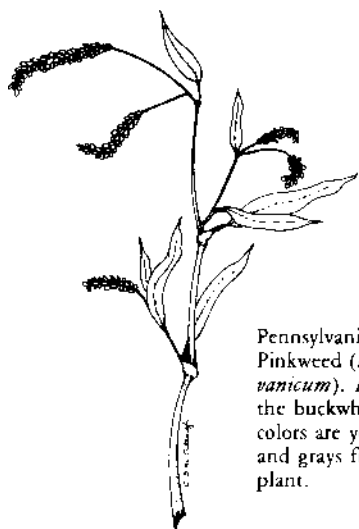
Purple-leaf or Cistena Sand Cherry (*Prunus x cistena*). A deciduous shrub of the rose family. Dye colors vary from greens to reddish browns from leaves and stems.

THE WEAVERS GUILD of Minnesota Dye Garden group was organized early in 1978 after some of its founding members had approached the director of the University of Minnesota Landscape Arboretum in Chaska, Minnesota, about planting a dye plant garden on the grounds. The study group is affiliated with the Weavers Guild of Minnesota, but is autonomous in most respects. The name reflects the voluntary participation of most of the members in both the guild and the study group.

Not long after we began work at the Arboretum, plans for a permanent dye garden were put on hold while extensive remodeling and new construction were done in the herb area. During the past seven years, with much help from the Arboretum staff, Dye Garden members have studied and experimented with growing dye plants and extracting dyes from those plants grown both in a nursery area not accessible to the public,

and in a small, temporary dye garden near the herbs. The permanent dye garden is now a division of the large herb garden which includes culinary herbs, fragrant herbs, medicinal herbs and dye herbs.

The dye plants grown during the first year were indigo, weld, madder and bedstraw as well as dyer's greenwood, camomile, poke-weed and coneflower. Dye plant seeds were not always easy to obtain. Four precious madder seeds were sent from William Robertson of Scotland and tenderly nurtured to four plants, now seven years old. Indigo and weld seeds came from Fred Gerber of Florida. One of our interests is recording the growth habits of the dye plants as they are grown in our particular geographical area. Record sheets have been made to note growth rate (height and spread), insect damage, weather-related damage, bloom time (bud, some bloom, full bloom, seed) and any additional comments. Although record-keeping has been sporadic,



Pennsylvania Smartweed, Pinkweed (*Polygonum pennsylvanicum*). A wild annual of the buckwheat family. Dye colors are yellows, green-golds and grays from the whole plant.

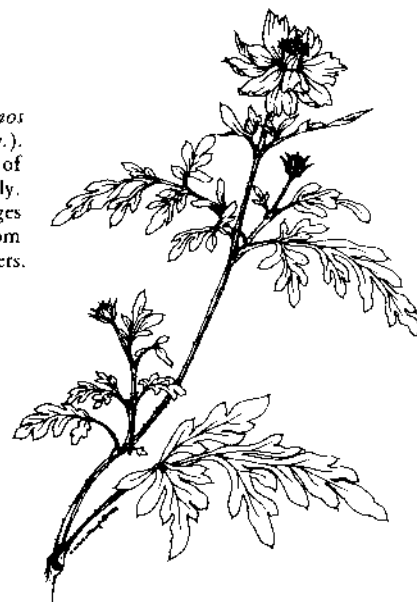
we hope eventually to make it a routine part of our weeding schedule.

From the beginning fundraising has been an important part of our activities. We participate annually in both the Fiber Fair at our guild and in the Fall Festival at the Arboretum. We have sold naturally dyed yarn (both commercial and handspun) accessories made from those yarns, Christmas ornaments made from naturally dyed fibers, and we have raffled off a handspun, naturally dyed afghan.

One of our greatest accomplishments has been the publication of four limited edition volumes of *A Guide to Dye Plants, with Pressed Samples of Plants Common in Minnesota*. Each volume comprises a portfolio with five dye plants including at least one weed, one cultivated flower and one shrub or tree. A botanical description including dye color, a pen-and-ink drawing and a pressed sample mounted in clear acetate are included for each dye plant featured. Many marathon days and nights were spent picking, pressing and mounting thousands of dye plants. A spin-off from the four volumes is a set of ten note cards (five designs) that includes drawings and botanical descriptions.

Part of our time is spent promoting our activities through displays and demonstrations. One of our favorites has been to decorate one of the dozen or more live evergreen trees for the Festival of Trees at Christmas time at the Landscape Arboretum. During the past three holiday seasons, we have made ornaments of handmade felt, three-dimensional silk-wrapped ornaments and woven reed ornaments, all naturally dyed, of course.

Finally, we have found time to conduct dye sessions, whether at an all-day dye-in or at our monthly meetings. One year we each experimented in an area of natural dyeing that was of interest to us. Later we each presented our results to the entire group along



Cosmos (*Cosmos sulphureus*, Cav.). A cultivated annual of the composite family. Dye colors are oranges and red-oranges from the flowers.

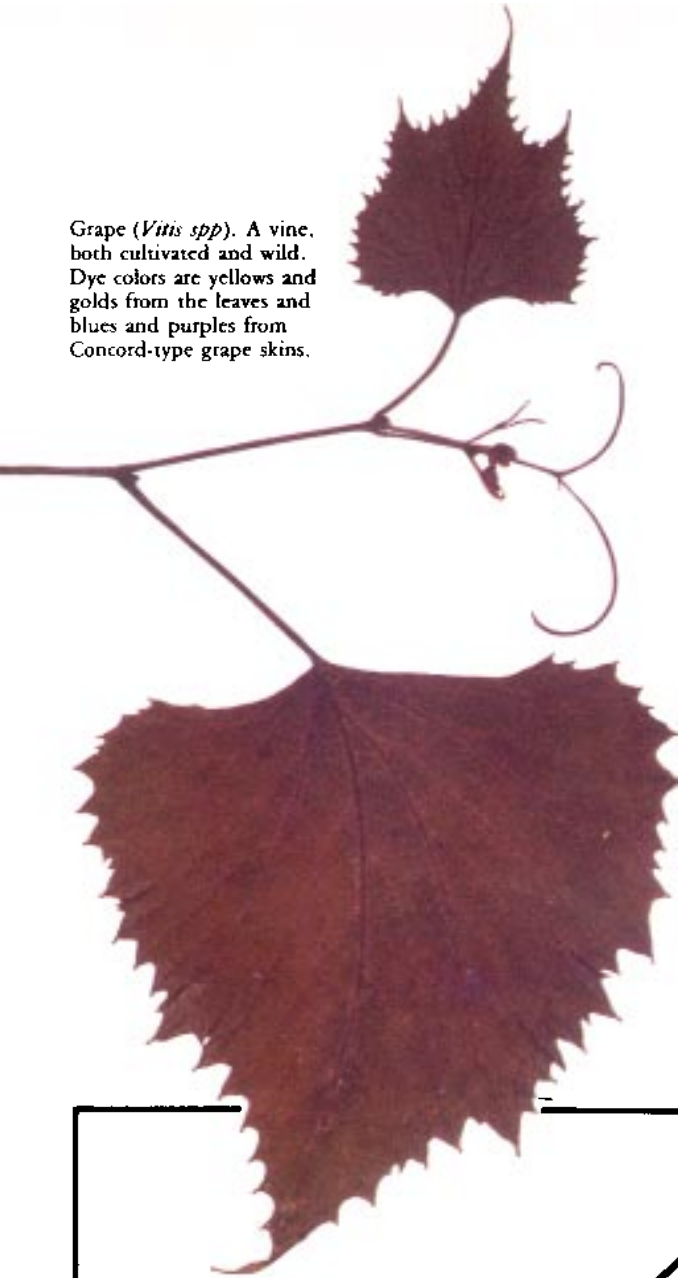
with a copy of a short paper and/or yarn samples for each member. Topics included solar dyeing, microwave dyeing; cold mordanting; dyeing with indigo, logwood and lichens; toxic and non-toxic dye plants; and a study of the effects of different kinds of water on dye color.

In the spring of 1985 we began planting our permanent dye garden at the Arboretum. The east end of the garden is filled with historic dye plants, while the rest of the space includes more contemporary dye plants such

Cosmos.



Grape (*Vitis spp.*). A vine, both cultivated and wild. Dye colors are yellows and golds from the leaves and blues and purples from Concord-type grape skins.



as hollyhocks, morning glories, Queen Anne's lace, coreopsis, dahlias and rudbeckias. Permanent labels for each plant offer the Latin and common names, and the country of origin. Because the perennials were small this first year, we planted lots of marigolds to fill in for both space and color. Each member of the dye garden volunteers to weed the garden, prune and harvest plant parts for future dyeing.

We have many hopes for our dye garden. We plan to continue to study growth habits and to experiment with dye plants—historic and contemporary, indigenous and foreign—with the possibility of future publications. We hope that classes, demonstrations, displays and leaflets will be part of an ongoing educational program. The exchange of dye plants from other parts of the country would be an exciting project. Eventually we may even have a small, covered shelter built in the garden for display of dyed fiber samples. After seven years of hard work, we have finally achieved our permanent dye garden space. This is just a beginning, however. We see it as an ever-changing display as we learn about and experiment with the incredible array of dye plants and dyes.

Guide to Dye Plants costs \$7.00. Only Volumes 3 and 4 are available. Package of ten notecards costs \$4.00. Both items may be ordered from Connie J. Magoffin, 3248 Colfax Ave. S., Minneapolis, MN 55408. Prices include postage and handling.



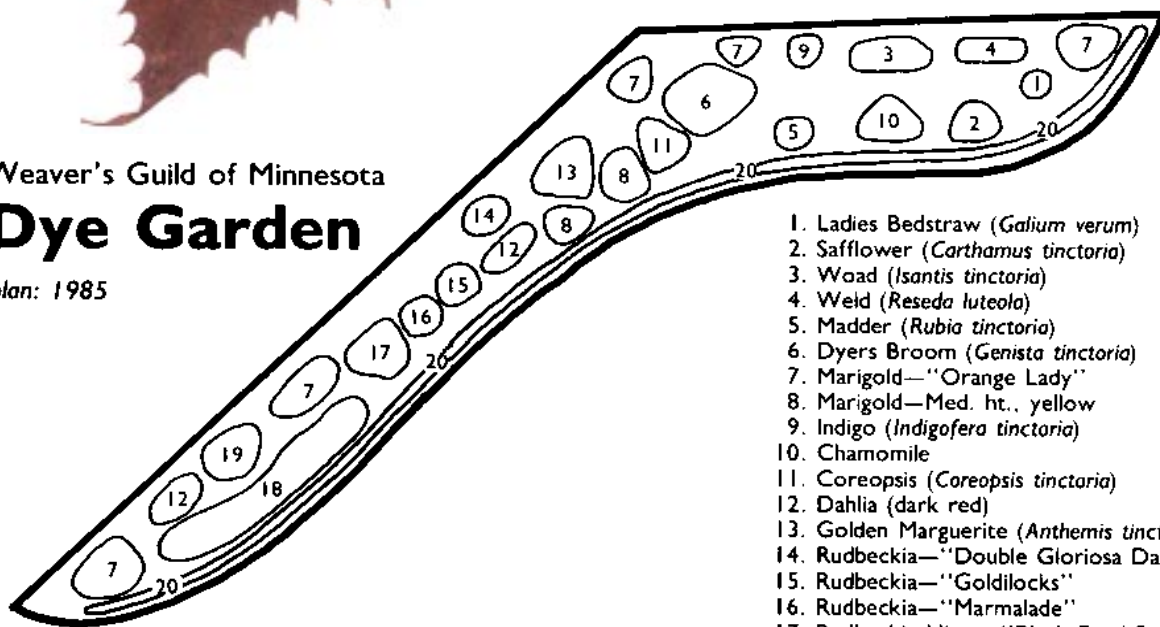
Black Walnut (*Juglans nigra, L.*). A broad spreading tree, prized for its fine-grained wood. Dye colors are browns from the leaf and green hull.



Marigold (*Tagetes spp.*). A cultivated warm-season annual. Dye colors are yellows, gold greens and browns from the flower.

Weaver's Guild of Minnesota Dye Garden

plan: 1985



1. Ladies Bedstraw (*Galium verum*)
2. Safflower (*Carthamus tinctoria*)
3. Woad (*Isantia tinctoria*)
4. Weid (*Reseda luteola*)
5. Madder (*Rubia tinctoria*)
6. Dyers Broom (*Genista tinctoria*)
7. Marigold—"Orange Lady"
8. Marigold—Med. ht., yellow
9. Indigo (*Indigofera tinctoria*)
10. Chamomile
11. Coreopsis (*Coreopsis tinctoria*)
12. Dahlia (dark red)
13. Golden Marguerite (*Anthemis tinctoria*)
14. Rudbeckia—"Double Gloriosa Daisy"
15. Rudbeckia—"Goldilocks"
16. Rudbeckia—"Marmalade"
17. Rudbeckia Hirta—"Black Eyed Susan"
18. Marigold—"Happy Red"
19. Queen Anne's Lace (*Daucus carota*)
20. Marigold—"Lemondrop"



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Color Theory for Handweavers

PART I: THE BASICS

by Pat Boutin Wald

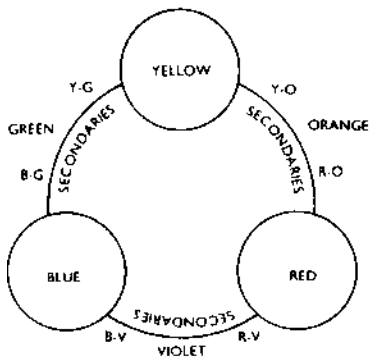


Figure 2. Location of primaries and secondaries on color wheel.

COLOR AND THEORY spoken in the same breath seem a contradiction. Color connotes emotions, spontaneity, and creativity. Theory sounds to most artists as something best left behind the walls of a laboratory. Yet the latest studies tell us that creativity does not necessarily flourish in a totally free and spontaneous atmosphere. This suggests that the study of color theory can provide a structure that will enhance creativity.

This series of articles will present an overview of color theory and its application to textile design. This first article will begin with an introduction to some basic vocabulary. It is particularly difficult to gain an understanding of color jargon, as writers often disagree on the meaning of even the most basic color terms. I have tried to develop a working vocabulary that will help you to understand color theory.

Learning a new vocabulary can be difficult, but don't be discouraged. The process of learning a new skill is also the process of understanding a new idea. They both take time.

Qualities of Color

What makes a good colorist?

What does a colorist know or observe about color, that we do not?

Much in the same way music is defined by pitch, duration and intensity, color can be defined by hue, value and intensity. These qualities are used to describe and organize color. They also determine how color behaves: does it move forward, blend with another

color, vibrate, or appear luminescent? An awareness of these qualities is essential to understanding color. Hue, value and intensity are interrelated, but for clarity we'll start by discussing each one separately.

Hue is the name of a color family. Your eye can discern millions of colors. Your mind groups these into similar families or hues of red, orange, yellow, green, blue and violet. When you ask someone to describe a color, hue is the first and often only quality they mention. Imagine how many different colors you now describe simply as green.

Hue families are often divided into two groups. The colors in the yellow, orange and red portion of the spectrum are *warm* hues. Those in the green, blue and violet portion are *cool* hues. Colors that have no hue (black, white and grey) are called *neutrals*.

Value indicates how light or dark a color appears. Value is frequently denoted by comparing a color to a numbered scale of greys ranging from black to white. The color is assigned the number of the grey that is the most similar in value.

To emphasize value relationships between colors squint your eyes to block out the light, or dim the lights. Our eyes use cells called cones to sense hues and cells called rods to determine value. There are more rods than cones in the eye so, as the light dims, the eye loses its ability to distinguish hue, and colors appear as shades of grey. Moving a greater distance from what you are viewing will also emphasize dark and light contrasts. This is why fabric often appears dramatically differ-



Figure 1. The three qualities of color: hue, value and intensity.

ent when removed from the loom and viewed from a distance for the first time.

You can lighten the value of a color by adding white to create a *tint*. Or you can add black to darken the value and create a *shade*. You can also change the value of a color whenever you mix it with a color of a different value. Texture also affects value. Smooth surfaces reflect more light and therefore appear lighter in value. Rough surfaces diffuse light and appear darker in value.

Intensity describes the purity of a color, or the extent to which a color is removed from neutral gray, white or black. Compare fire-engine red to maroon. The former is a pure color of high intensity. Maroon is a mixed color of red and neutral black and is lower in intensity.

Intensity also indicates the strength or vividness of a color. Certain colors in their pure form are more intense than others. Compare a pure orange and a pure blue. The orange is more vivid.

The term *chroma* is used interchangeably with intensity. *Saturation* is also closely related to intensity. To a dyer, saturation means the amount of dye needed to achieve a full color. A lesser amount of dye would let the white of the yarn show through and result in a pastel color of less intensity. *Desaturation* is the opposite of saturation and refers to a color that is approaching a neutral but still retains some of its hue. The muted colors of natural dyes are good examples of desaturation. A pure hue can be desaturated by adding white, black or grey. A hue with added

grey is a *tone*. The more neutral the color you add, the more desaturated the original color becomes.

Color Relationships and Composition

To explore the composition and relationships between colors, let's begin with a visual computer of color relationships—the color wheel.

The circumference of a color wheel is composed of primary and secondary colors. *Primaries* are the basic colors from which all other colors are composed. The most familiar set of primaries is yellow, red and blue. *Secondaries* lay between the primaries on the color wheel. They are composed of varying amounts of two primaries. Secondaries on the color wheel between the primaries yellow and red would be: yellow oranges, orange and red oranges.

The term *analogous* describes colors that are similar in hue and located close to each other on the color wheel. All colors in the range of yellow, yellow orange, orange and red orange are analogous. Colors located right next to each other are called *adjacents*. Blue violet is adjacent to blue on the color wheel.

Directly opposite a hue on a color wheel is its *complement*. Complementary relationships are important in many aspects of color theory. Complements are basically opposites. If two colors are complementary in value, one is light and the other is dark.

Complement most commonly refers to

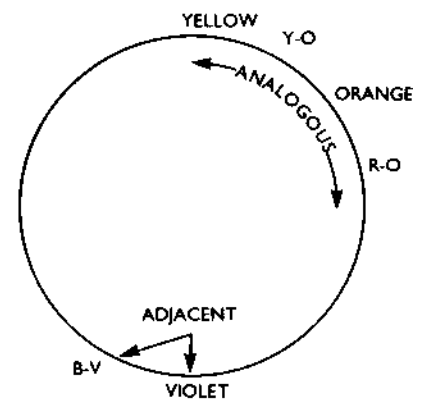


Figure 3. Analogous and adjacent relationships on color wheel.

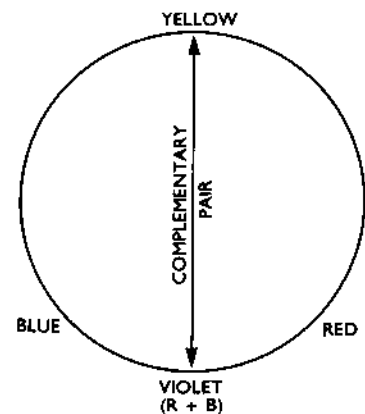
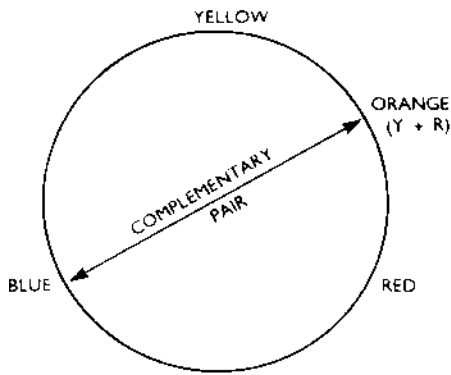


Figure 4. Complementary pair of yellow and violet.



the hues of the colors involved. Here complement means "to complete" the spectrum. A color and its complement together contain all the primaries of the spectrum. To determine a color's complement you need only to determine which primary color it lacks. Confusing? Let's try an example. What is the complement of orange? Orange is composed of yellow and red. What primary does it lack? Blue. Therefore blue is the complement of orange. Working in reverse, find the complement of yellow. Yellow lacks the primaries blue and red. Blue and red combined form violet. Therefore, the complement of yellow is violet.

When mixed, a complementary pair of colors always results in a desaturated color. This is because all three primaries are present in the mixture. You may have noticed while dyeing that as long as there are only one or two primaries in the dye pot, the color remains intense. The moment you add the smallest amount of a third primary, the color in the dye pot is immediately desaturated. If you have a very intense orange dye bath and add either red, or yellow, the dye bath would remain intense. Add just a touch of orange's complement, blue, and the bath will immediately turn towards a brown or greyish color.

Colors that contain some amount of all three primaries, such as blends of complements, are called *tertiaries*. Because of the

neutralizing, or greying effect, a mixture of a color and its complement is also called a *tone*. Olive green, rust, navy blue and the many forms of brown are examples of tertiary colors. They are located inside the color wheel. You'll notice that colors become progressively more neutral as they approach the center of the wheel and the proportions of the primaries in the mixture become more equal. The neutralizing effect of having all three primaries present works so well that it is often possible to create neutral grey or black by combining the right proportions of primaries. The required proportions will vary with the different brands of dye.

Experiment with food dye dissolved in water. Start with the three primaries: yellow, red and blue and try mixing secondary and tertiary colors.

Color Solids

It is not possible to illustrate all colors on a color wheel. We can show the primary and secondary hue circle with its intense colors. Within the circle, the tertiary colors, hues decreasing in intensity as they are desaturated with their complements. But there is no place to put all the possible tints and shades of these colors that represent the extremes of value. The three dimensions of hue, value and

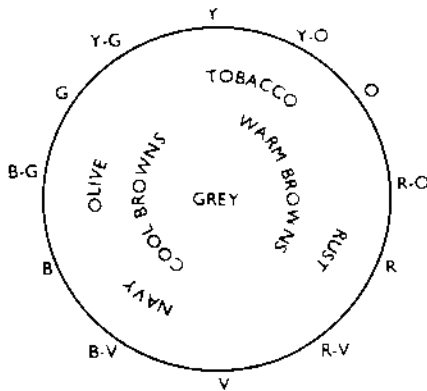


Figure 6. Location of tertiary colors on color wheel.

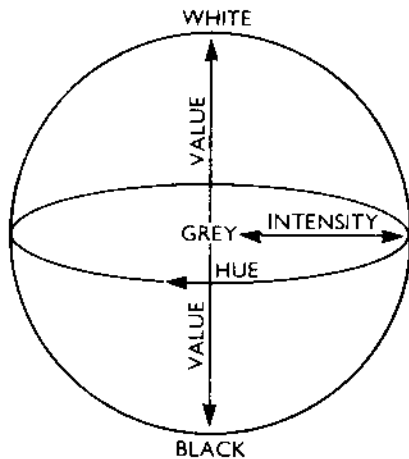


Figure 7. The three dimensions of hue, value and intensity illustrated on a color solid.

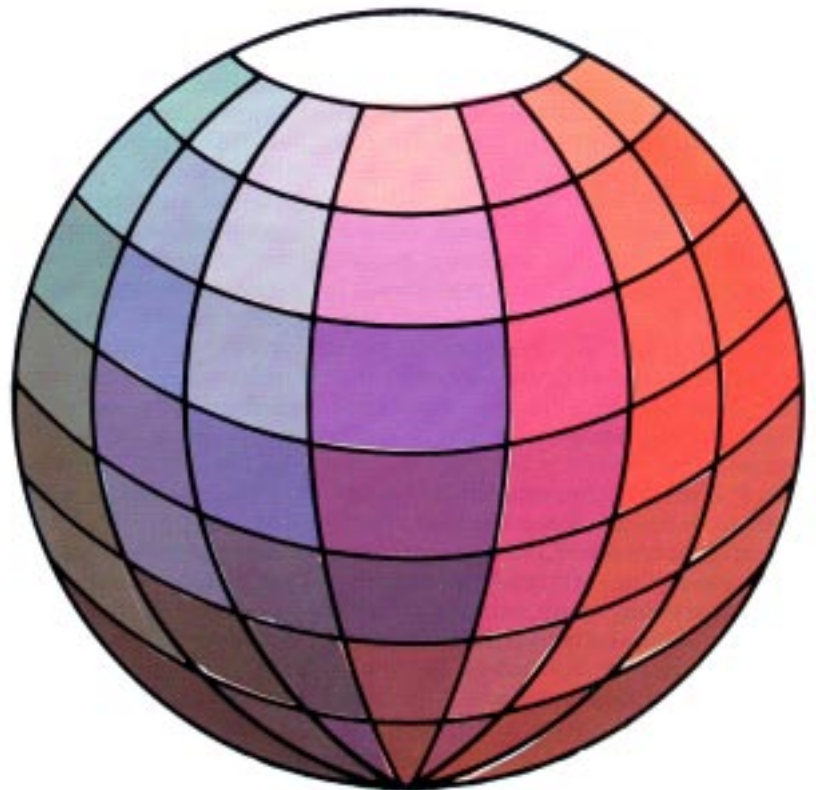


Figure 8. Author's sketch of color solid.

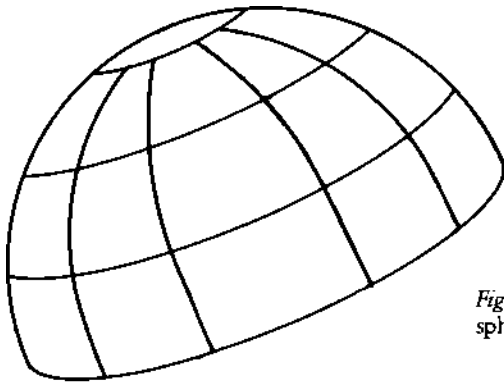


Figure 9. Cutting color sphere through equator.

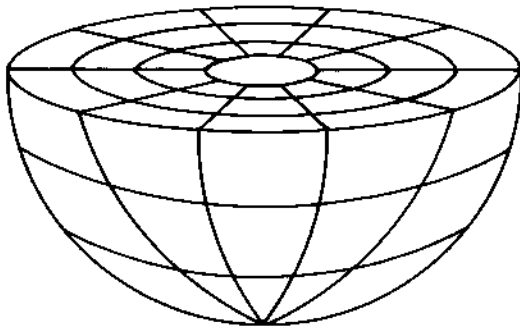


Figure 10. Cross section of color sphere.

intensity won't fit on a two dimensional color wheel. The answer is a three dimensional color solid.

A color solid can take many forms: A color sphere is illustrated in figure 00. Imagine this sphere as the planet earth. Around the equator is the hue circle. If you cut the sphere in half through the equator and lift off the top half, you reveal the various tertiary colors. To create the third dimension, imagine the top half of the sphere as simply lighter and lighter tints of these colors until you reach white at the north pole. The bottom half is composed of progressively darker shades culminating in black at the south pole. Most color solids, such as the Munsell Color Tree are variations on this basic idea. These systems are used to identify individual colors. They are also invaluable in understanding the composition of colors.

This article has covered the basic vocabulary for describing the qualities of color, the composition of colors, and their relationships to each other. Simply reading these words and definitions will not dramatically improve your awareness of color. You will need to *use* these words. In the next few days, take time to describe some of the colors you see around you. Note each color's hue, value and intensity. Then try imagining its position in the color sphere.

The topic of the next article in this series is color mixing—the mixing of light vs. dyes and pigments and visual blending of fibers and threads.

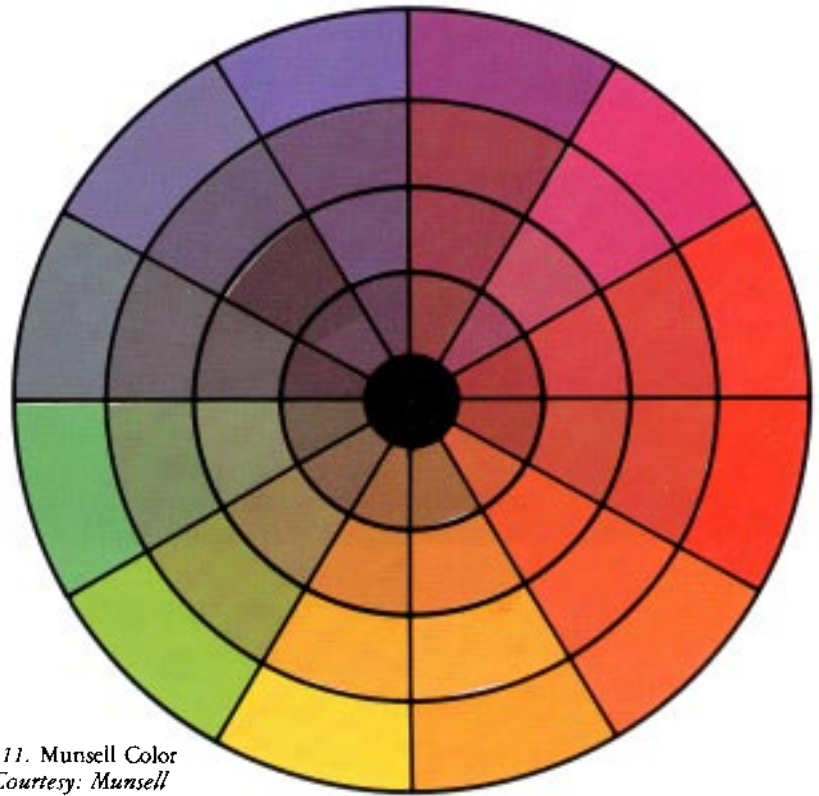
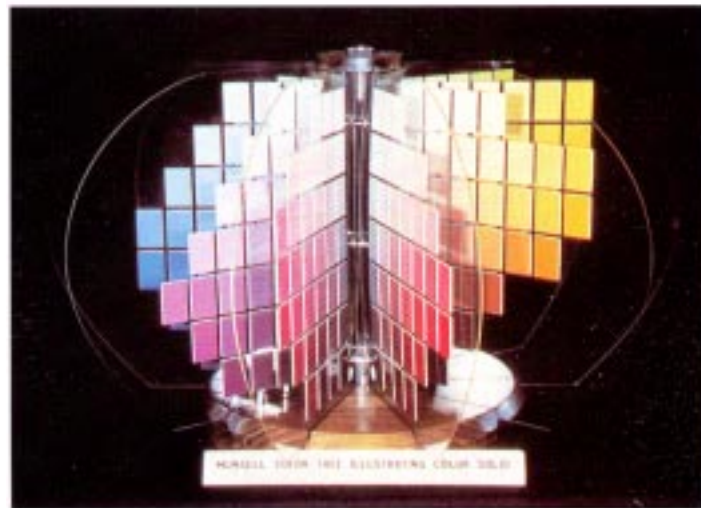
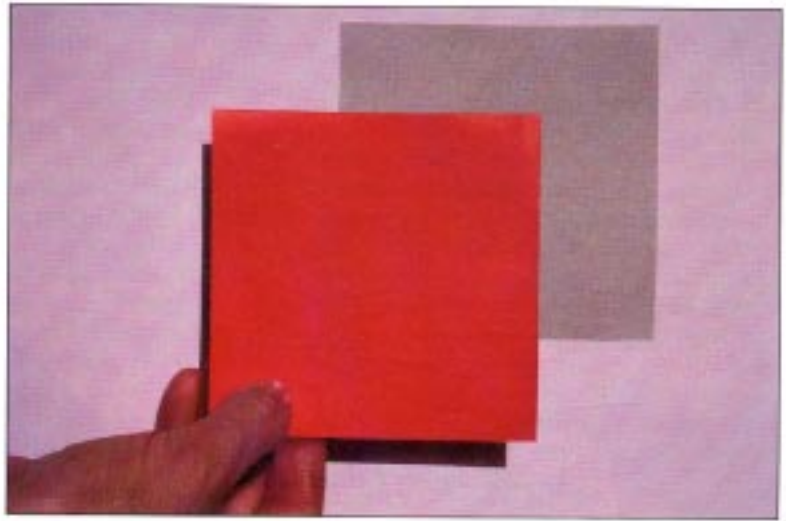


Figure 11. Munsell Color Tree. Courtesy: Munsell Color, 2441 North Calvert Street, Baltimore, MD 21218.



Visual Complements



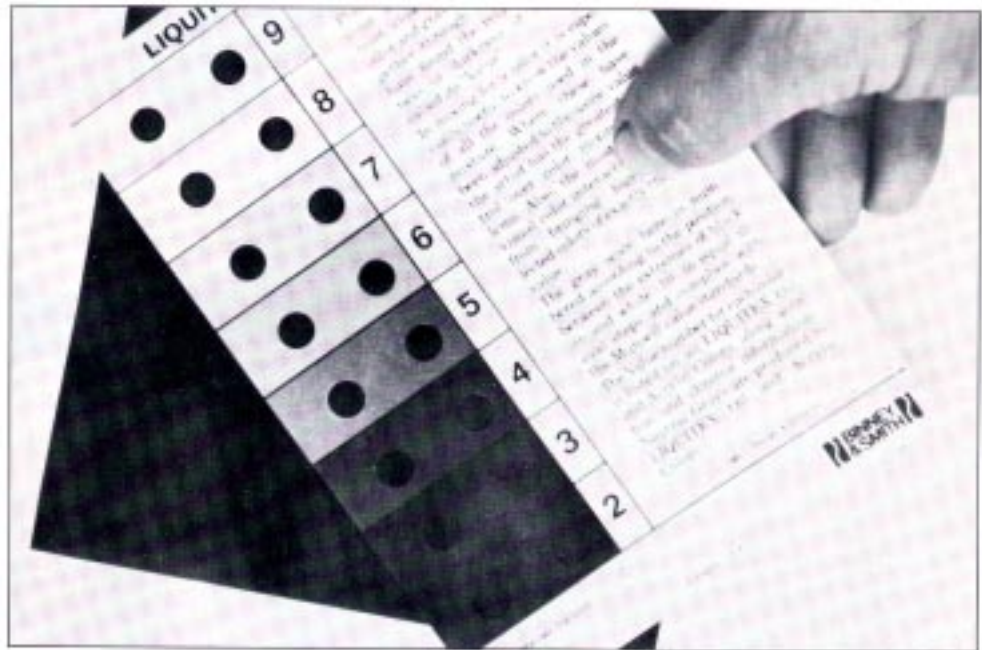
Simulated afterimage.

Complements show up in some surprising places. They can appear as if by magic in the form of afterimages. An afterimage is a second color produced by the eye after the color it has been viewing has been removed.

To try viewing an afterimage, use a small square of plain-colored paper or fabric placed on a large sheet of white paper. Intense colors work best. Making sure the surface is well lighted, stare intently at the color for at least 30 seconds. Now remove the square but *don't move your eyes*. Keep star-

ing at the same spot—you will now be looking at the white paper. It will take a couple of seconds, then you will start to see a new color appear on the paper. At first it will be quite pale, then it will increase in intensity. After a short time it will gradually fade away. This new color, created by your eyes, is the visual complement of the original colored square. Although visual complements can vary with different people, it will usually be a near complement in both hue and value to the original color.

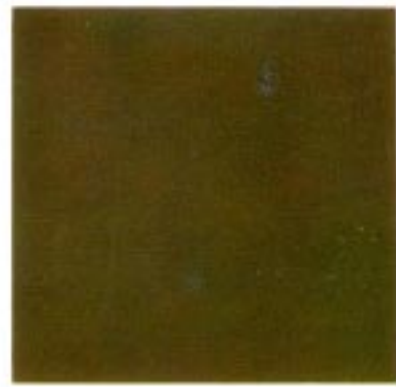
How to Use a Value Finder



A value finder helps you to assign a value number to designate how light or dark a color is. You might find one helpful if you have trouble observing differences in value, or need a color match and don't have a portable swatch of that color.

Lay the value finder over the color and then squint your eyes. In the part of the scale lighter than the color, the color will appear as dark dots against the greys. In the part of the

scale darker than the color, it will appear as light dots. At the point where the dots of color and the grey scale blend, the color and the grey are of equal value. *Note:* The Liquitex Value Finder illustrated, courtesy of Binney & Smith, can be purchased from any art supply store that carries Liquitex™ paints.



Try Organizing Colors According to Value

It is interesting to note that the oldest color terms in almost every language are *black* and *white*. When used in their original context (referring to all colors) they signify dark and light, or *value*. Value is probably the first color trait observed by early man. In many areas of color theory such as color blending and the illusion of dimensional forms, value plays a more important role than hue in determining how colors behave. Our strong orientation to hue can make it difficult to observe and use value.

Early colorists provided a new viewpoint—one that emphasizes value—from which to observe color relationships. To try this alternative way of looking at color, make a collection of objects whose colors are different in hue and intensity, but similar in value.



THERE IS A MYSTIQUE surrounding silk that beckons us all. It is irresistible—the drape, the sheen, the soft hand, its elegance. That such wondrous fiber is produced by a simple small creature is still a miracle to me. Do you find yourself drawn to silk as well? Have you wondered how to dye or weave it and then fantasized about that shimmering garment that you could make? Now that silk has become more readily available, let the dreams roll on. Consider yourself as fortunate as the nobility throughout history who reserved it for their best robes or the peasants who raised it and by so doing had access to the sumptuous fiber for spinning, dyeing and weaving.

New uses for silk are still being explored. The ski industry is using silk as batting in clothing. The French use it in bicycle tires and the Chinese have devised silk arteries. However, it is the dyer's art of coloring silk that holds special fascination for me. The aesthetics of color on silk serve to bring out its quality of luster. Imagine increasing the sheen and adding a rainbow of colors to an already luxurious fiber.

Although silk requires special steps for proper dyeing, in many ways it is more resistant than wool to the harmful effects of certain chemicals and processes. It absorbs the dye easily, requires low temperatures and does not felt. The physical characteristics of silk such as its smooth, structureless surface combined with its chemical properties contribute to its responsiveness to a range of dyes and methods. Silk can be dyed readily with both hot and cold water dyes, with dyes designated for both protein and cellulose fibers, with natural or synthetic dyes and with a variety of methods including immersion and direct application. Silk thus holds a unique position among the natural fibers, having characteristics that allow the most flexibility in the dyeing process.

There are many characteristics of silk which help to understand why and how it dyes. I would like to discuss some of the properties I have found to be the most noteworthy from a dyer's point of view.

Types of Silk: Tussah and Bombyx

All of the different shades of natural silk provide an interesting palette to overdye, yielding subtle color variations which add depth to the finished fabric. There are two basic types of silk. The wild form, which has many varieties, is most often referred to generically as *Tussah*. Much of the wild silk available today is the actual Tussah variety from China. The other type is the cultivated *Bombyx* silk sometimes referred to as mulberry silk. There are several species but the one most often used is the *Bombyx Mori* from Japan, China or India.

The wild Tussah silk is typically dark, ranging from golden in color to deep brown with flecks of darker brown. Its color is the result of the plants the worms feed on: oak and chestnut leaves or the castor

The Art of Silk Dyeing

by Michelle Wipplinger



Above. Bombyx yarns and wild silk yarns (Tussah) showing the differences in color between the white of the cultivated form and the variations in the brown of the wild form.

Opposite. Mawata and silk caps of the Bombyx variety dyed in a variegated manner using both Cibacron F cold water and Lanaset hot water dyes. All of the yarn is handspun.



Bombyx and Tussah cocoons showing the natural colorations produced by the different plants that the worms eat. From top to bottom: bright yellow Bombyx Mori cocoon (Spain); "Kemdion" light yellow Bombyx Mori cocoon (India); raw Bombyx Mori cocoon (India); raw Bombyx Mori Douppion cocoon, 2 pupae (Greece); Manchurian Wild Silk cocoon, Tussah silk; Italian Wild Silk cocoon, Tussah silk.

oil plant. A high content of tannin from these plants remains in the fiber and makes the silk more resistant to degumming and dyeing. The Tussah fiber is coarser, stiffer and the filament much larger than the Bombyx silk. The size of the filaments gives a striated appearance to the surface of the silk resulting in substantially less sheen than is given off by the luminescent cultivated silks. Tussah is much stronger and more resistant to acids, alkalis and metallic salts than is the Bombyx variety.

Mulberry silk on the other hand is white, soft, highly lustrous and has a very fine filament. The pure white color, a prized characteristic, is the result of the worms feeding exclusively on mulberry leaves. Often the cocoons are discolored a green or yellow. These are temporary pigments from either carotene or lutein in the leaves they eat, which readily wash out. Bombyx silk is susceptible to the injurious effects of some chemicals and heat.

Effects of Chemicals on Silk

Acids

Mild organic acids such as tartaric and acetic enhance the scroop of silk (its characteristic rustle and brilliance). Silk so treated is just slightly stiffer than unscrooped silk. The stronger organic acids such as oxalic, citric and formic can be used during dyeing but the silk must be rinsed well after exposure. Formic acid is recommended for certain dyes (Lanaset™) as a rinse procedure (1% weight of fiber, wof, of 85% strength). Concentrations of formic acid can change the physical structure of silk as well, allowing it to take up more dye but lose luster. Silk will readily and permanently absorb large amounts of tannic acid even in cold water. Tannin serves to darken, weight and mordant silk. If used with an iron mordant it helps to protect against the oxidizing effects of this metal. The stronger mineral acids will damage silks and greatly decrease luster depending upon concentration, heat and time. It is unlikely that most dyers will have occasion to use these as most available dyes call for the weak organic

acids, often acetic acid at a pH of 4.5–5. *A rule of thumb is to keep the temperature of the silk below a boil even with the mild acids.*

Alkalis

Mild alkalis such as borax, soap and ammonia have no harmful effect on silk even with heat. Dilute washing soda with minimal heat for a short time is not harmful. However, it needs to be neutralized with an acid afterbath. The luster of silk will be decreased noticeably if washing soda is used at temperatures of 180°F and above. Don't use heat with alkalis and then even lye will not harm silk. That's why the indigo vats (lye base) and the fiber reactive dyes (washing soda base) are fine for silk. Although they demand a pH of 9.5–10 the water temperature is only 120°F. However, the alkalis need to be neutralized following exposure with an acetic acid rinse (56% strength at 1% wof). A tannic acid rinse is good after an indigo bath, it gives a slight greenish cast to the medium or light values.

Mordants

Silk will absorb the metallic salts in cold water, making it easy to premordant. The hazard to be aware of is excessive weighting of the silk. Historically, silk lost considerable weight after degumming and the dyers would add this weight back by infusing the degummed silk with heavy metal salts. However, this excessive weighting of silk decreased its strength and luster and caused rapid deterioration of the fiber. Of all the mordants, Potassium alum weights silk the least and has no harmful effects over time. Tin has the greatest affinity for silk and if used in reasonable amounts does little damage to the silk. It is often used alone as a weighting factor, not as a mordant.¹ However, exposure to sunlight in combination with tin weighting promotes rapid deterioration of the silk fiber. Chrome and iron are hard on silk under any circumstance and will break it down. The hand, the luster and the color are all affected by both of these. Only if using natural dyes would the use of any mordants be relevant. In order to main-

SUMMARY OF DYE EFFECTS BETWEEN BOMBYX AND TUSSAH

Bombyx Silk

- Yields clear brilliant colors
- accepts dye readily
- absorbs slightly more dye than tussah, approximately 1 value darker
- highly lustrous
- sensitive to tendering from alkalines when heated, to concentrated mineral acids and the mordants chrome, copper and iron
- much less strong and elastic than Tussah, indicating care and gently handling during and after dyeing, especially when the fiber is still wet

Tussah Silk

- yields desaturated colors affected by the natural yellow-brown of the silk. Light blues will appear green; yellows will appear gold or olive; true reds will be the least affected; pinks will be old rose
- dye penetrates slowly and incompletely
- depending on the variety of wild silk, it takes more dye to achieve full color than for Bombyx
- significantly less luster than Bombyx
- resistant to the injurious effects of dyes chemical under typical craft-dyeing conditions
- 30% more elastic and almost 3 times stronger than Bombyx. Easier to handle when wet.

tain the integrity of the silk use Potassium alum as the primary mordant, be judicious with other mordants, and then only use them in a cold steep for short periods of time.

Other Factors to Consider when Dyeing Silk

Temperature

Silk dyes best at much lower temperatures than wool; between 150–185°F is optimum. Long exposure to high temperatures decreases the luster of the silk and with some dyes reduces the take-up of the dye by the fiber. The presence of acids or alkalis in a dyebath combined with high heat will also cause fiber damage. Try to work at the low end of the temperature range for best results with chemicals in the dyebath. The temperature range for fiber reactive dyes (Cibacron F) is 110–140°F, for hot water premetalized-reactive dyes (Lanaset is 190–194°F and for natural dyes the range is 170–190°F.

Water

Water is the medium which serves to disperse the dyes and swells or opens out the fiber temporarily, allowing the dye to penetrate. Silk is a highly absorbent fiber taking in water readily. However, if the water is hard or impure, the silk will absorb the impurities too, decreasing the luster and softness of the fiber. Use soft water at all times when dyeing silk.

Bleaching

As with many other natural fibers I find inconsistent dye results when I use bleached silks, be it Bombyx or Tussah. Typically, yarn will dye lighter than its unbleached counterpart. Sometimes I find uneven dye take-up and sometimes bleached silks dye perfectly. Overoxidation during the bleaching process is one hypothesis that could explain this. Always try to find out if the silk you have purchased has been bleached. It may save you some agony if you get unexpected dye results.

Salt

Throughout the dye literature there is reference to the fact that salt is harmful to silk. The information is conflicting with regard to the type of salt and the conditions under which the damage occurs. It is true that small amounts of salt are easily absorbed by silk even in cold water. Salt solutions (chlorides) are particularly harmful if applied in combination with any of the mordants. This combination when exposed to moisture and air, causes tendering of the silk and eventually complete deterioration.

Various kinds of salt are used routinely with the synthetic dyes but not with the natural dyes where mordants are essential. Only if one is weighting silk with tin and using one of the synthetic dyes which requires salt (i.e. fiber reactive dyes) would this be of any concern. The common table salt used with



the fiber reactive dyes (Cibacron F™) does not appear to break down the silk or decrease its luster. The silk is much stiffer coming out of the final rinse with this dye, however. It will take repeated flattening of the silk by twisting and gently slapping to make it pliable again. To combat this, use a neutral plant-based soap as a final rinse to soften the fiber. The hot water dye Lanaset requires Glaubers salt for leveling and exhaustion. Using this salt at a 5% wof concentration did not decrease the luster and helped promote excellent exhaustion (90%) of the dye. In experiments without the salt the fiber still dyed evenly but the exhaustion rate was much poorer, perhaps only 60%. The sheen and hand of the fiber remained identical to the silk that was dyed with the salt. One source I read stated that either common table salt (20%–30%) or Epsom salt (3%–5%)² gave darker colors on silk, especially when dyeing wool-silk blends with the milling and supermilling dyes.

All types of silk yarn dyed with Lanaset hot water dyes.

Considerations during the dyeing process

There are two primary problems that occur while dyeing silk: the propensity for tangling and uneven dye take-up. *Tangling* is a particular worry with the fine silks.

- To avoid an incorrigible fiber mass in the dyepot, learn to lift and rotate the skein instead of stirring.
- Tie at least four very loose figure-eight ties through the silk skein (depending upon the length of the skein, more ties may be necessary). It is best if the ties are white cotton cord of the same diameter as the fiber.
- Make the hanks about 4–6/oz/ size for ease of handling. Run a very long white cotton cord through half of the skeins and tie the cord off at the side of the dye kettle. Do the same with the other half of the skeins. The cords should be so long that the skeins can float freely anywhere in



A variety of wild silks and Bombyx showing how each has accepted a blue dye (Lanaset).



A variety of wild silks and Bombyx showing how each has accepted a yellow dye (Lanaset).

the kettle without being restricted. These are the cords I use to lift, straighten and rotate the yarn during dyeing. If you use this cording system, you will always be able to align the fibers at any point during the dyeing. I leave these cords on the skeins during the rinse and drying as well. They can be reused.

Level dyeing is also of concern depending upon the specific dye. Remember that silk absorbs dye and chemicals readily so dye conditions and skein preparation must be kept perfect throughout the process to insure even color take-up.

- Rotate yarns regularly
- Tie figure-eights very loosely through the skein so that resisted areas do not occur.
- Mix the combination of dyes that comprise the color thoroughly in another container before adding it to the dye kettle, then vigorously mix the dye with the water in the kettle.
- Use leveling agents with the dyes where prescribed to promote even distribution and steady migration of the dye molecules. If using Lanaset hot water dyes this means the use of Albejel SET and Glaubers salt; for Cibacron use common table salt; natural dyes usually do not require a leveling agent.
- If using hot water dyes remember to bring the dyebath slowly up to temperature. A steady rise is essential for both the natural dyes and Lanaset. Usually I take slightly more time than is recommended for wool.
- Watch for "hot spots." That is, do not allow the silk to sit too long in one place on the bottom of the dye kettle where it sits directly on an electric burner. To avoid this problem use a propane burner with a stainless steel kettle. If you do not have this equipment, place a sturdy cake rack between the kettle and the electric burner to allow some distance from the heat.

Use a 40:1 water to fiber ratio where even dyeing is more of a problem (Lanaset and some of the natural dyes). This allows more time for the dye molecules to distribute evenly and strike on the fiber.

Considerations After Dyeing

Value

Silk always dyes lighter than wool given equal amounts of dye; usually two values lighter (Lanaset and natural dyes). When fiber reactive dyes (Cibacron) are used, silk dyes considerably lighter than rayon and then just 1 or 2 values lighter than cotton and linen. Silk dyes pale to light-medium values with Cibacron and medium to very deep colors with both Lanaset and natural dyes. Silk has fewer available dyesites responsive to the fiber reactive dyes than it does for either Lanaset or the natural dyes. Silk always dries approximately 2 values lighter. Bombyx silk in particular will always appear lighter than other protein fibers because of its sheen.

Lustering and Brightening

Luster is one of the most coveted properties of silk. Since silk is an extruded fiber, it has a relatively smooth surface which allows for maximum light reflection. Try to retain this wonderful characteristic throughout the dyeing process. The choice of dyes and methods, amounts and types of chemicals and the temperature could all have the effect of decreasing luster, so take care and always use a light, cautious approach. The following are ways to improve luster during and after dyeing.

- After dyeing put the silk skein through a process of twisting, pulling or gently slapping against a hard surface when almost dry. This serves to flatten, soften, straighten and slightly stretch the silk which increases its sheen. In industry this twisting is done while simultaneously steaming the silk under pressure.
- Brighten silk by scooping it in cold dilute solutions of either tartaric or acetic acids. Soak the fiber for 5 to 15 minutes in 5% wof acetic acid (56% strength) or 1% wof for tartaric acid. Do not rinse the silk after this treatment, just squeeze out excess moisture and dry. The acetic acid will evaporate eventually and need to be reapplied. Scooping with tartaric acid is permanent.
- The addition of boiled-off liquor (the soap solution and sericin obtained from the degumming of raw silk-Bombyx) preserves the luster and softens the silk better than anything else. This liquor is preferred during the dyeing process over any of the salts for leveling. Nowadays the silk we purchase is degummed so the only way to get this liquor is by degumming cocoons (which can be used for reeling or mawata making). An alternative is hide glue (*Textile Arts Newsletter*, Silk Issue, vol. II, No. 4 and vol. III, No. 1 1980).
- The final method is to luster the silk after it has been woven into a fabric. There are many methods and techniques all of which serve to flatten the fiber. Typically the fabric is beaten, pressed or crushed to achieve a soft lustrous effect.

The Dyes

As silk becomes more popular, we are becoming more familiar with the dyes suitable for silk. There are many dyes that can be used with this fiber. The following is just a partial listing of the ones more commonly available for immersion dyeing. I find that these dyes cover the gamut of possibilities for creative color work with silk. These are the ones that I have worked with extensively over several years and have found them to be excellent for silk. When a particular type of dye should be used depends upon personal preference, the desired color, the finished product and many other variables. The following guidelines should prove helpful in making some of those dye choices.

Natural Dyes

Naturally dyed silks are close to my heart and for my own work I use them frequently. I use only the ancient dyes: weld, fustic, madder, cochineal, brazilwood, logwood, indigo, walnut and cutch. They take more time and cost more, but the bright color results on the silk make it worthwhile. These deep, rich jewel tones are reminiscent of the finest Pre-Columbian tapestries and old kilims. They have a special opulence and luminescence. I enjoy the process of preparing the dyes and the sense of history that goes with using them as well as the wonder and alchemy. Each natural dye is idiosyncratic with reference to dye methodology and characteristics. Suffice it to say that to use these dyes correctly, each must be made into quantifiable stock solutions and the dye applied on a percentage basis according to the weight of fiber. If you follow exact procedures and learn to know each dyestuff well, making adjustments for changes in strength of the material, reproducible colors are possible.

I reserve the use of naturally dyed silk for special clothing projects. Silk does not fare well in direct sunlight, and in clothing lightfastness under rigorous conditions is not as much of a factor. I have found the ancient dyes to have held fast to their color over the years, especially the medium to dark values. Brazilwood and logwood are less fast than the others listed. Two of the keys in color retention are proper mordanting and dyeing procedures. Washfast qualities are good with the ancient dyes, although cochineal tends to bleed slightly and is sensitive to pH shifts in the rinsing. Always use a neutral soap to combat this.

Procedures

- Premordant with potassium alum only by cold steeping in 50% wof for 2 to 3 weeks or 100% wof for 2 days with a water-to-fiber-ratio of 30:1; rinse well after mordanting.
- Extract and quantify each dye (*Color Trends*, Vol. 1, No. 2, 1985).
- Carefully apply the extracts on a percentage basis moving from light to dark in either hue or value.
- Use just the amount of dye needed for each color and in so doing the concept of exhaust dyeing can be applied to these dyes as well. The best of the dye is obtained with the first simmer and the remaining color will yield clear but less fast results.
- Mix two-three extracts together and dye with them simultaneously. Colors will be clearer and different than if they had been overdyed, which is the traditional method.
- The simmer range is between 170°F–190°F; simmer time is 30–45 minutes up to temperature and 30 minutes at temperature; cool in bath; remove and rinse in neutral plant based soap.

Fiber Reactive Dyes

I sometimes use the Cibacron F fiber reactive cold

water series for my silks. I use them for convenience because I do not need to heat them and I can use any non-reactive container such as plastic for dyeing. They are good for large piece dyeing where any vessel can be used (an old bathtub or a child's swimming pool). The cold water process does not subject the silk to the possible injurious effects of heat. The dye process is fast, easy and even the washout procedure is improved over the Procion series. I use Cibacron F to obtain colors that range in value from pale to light-medium. Although I could obtain slightly darker colors by dyeing at the high end of the temperature range, for the most part I choose not to do so as it is the concept of no heat that I find useful and unique to this dye. With this dye I produce a color range I call "pastel ices" which are gentle, soft and decidedly modern—colors to match the Italian gelato craze. Keep in mind that truly deep colors are just not possible on silk with this dye. I generally use two reds (fuschia and scarlet), one blue (which is strong), and two yellows (lemon and gold) to mix the colors.

There are many reasons why I prefer Cibacron F over the Procion series for silk. The stock solution lasts many weeks compared to a few hours with Procion. Cibacron F reacts slightly slower so it strikes more evenly and exhausts simultaneously across all colors. The dye process is procedurally simple because the salt can be added all at once without fear of streaking. Darker colors are possible on silk compared to Procion. A 3% depth of shade is a medium value on silk. Twenty to 40% of the Cibacron F does not fix permanently to the silk: this is why the washout procedure is so important. Generally silk will lose 2 to 3 color values due to washout. However, washfast qualities are excellent. A hot water synthrapol wash is still necessary. The temperature range is slightly higher: 110°F–140°F. Otherwise the method of applying the dye is the same as for Procion.

Premetalized-Reactive Dyes

Due to the reduced availability of the Cibalon™ premetalized dyes I have stopped using them but have recently replaced them with a new dye, Lanaset, made by Ciba-Geigy. It is a combination of 1:2 premetalized dyes that are reactive on wool and silk. This combination of dyes accesses the available dye-sites throughout the silk fiber yielding medium-dark values at just 2% depth of shade. This hot water synthetic dye will give dark, modern, sophisticated colors on silk.

The dye results on silk are exciting. The colors are bright and clear and they dye evenly with excellent exhaustion (90%). The turquoise and violet are particularly special: luminescent and strong. Until now I have not been able to mix a violet with such brilliance. The scarlet red is weak tinctorially and the fuschia is in fact more of a bordeaux. The two yellows (lemon and gold) and the royal blue are what one would expect.

The dye procedure involves more chemicals,



A variety of wild silks and Bombyx yarns showing the difference in how they have accepted the yellow, blue and red colors.



The differences in bleached and unbleached Tussah and Bombyx. The darkest colors are unbleached.



The difference in luster between a noil yarn and a high quality spun Bombyx.



but basically the procedure is similar to that for Cibalon. I use this dye when I need vigorous light and washfast qualities, for convenience and to reduce expense compared to the natural dyes. I can also get a true turquoise with this dye which is difficult with the natural dyes.

Procedures

- Although level dyeing is considerably easier with Lanaset I still follow the procedures described earlier in this article.
- Use a 40:1 water to fiber ratio.
- Use acetic acid (56%) at 4% wof or whatever it takes to attain a pH of 4.5–5.0.
- Use Sodium acetate crystals at 2% wof.
- Use Glaubers salt at 5% wof; Albagel SET at 2% wof.
- Begin dyeing at 110°F, add all of the chemicals at once, bring the temperature up to 120°F, gently lift, rotate and hold for 10 minutes. Remove the silk, add the dye and stir vigorously and return the silk to the dyebath. Slowly bring the temperature up to 190°F–194°F over 60 minutes, rotating regularly. Hold at temperature for 30 to 45 minutes.

Cool in the dyebath, remove and rinse in a neutral plant based soap such as Orvus paste or olive oil soap.

Other dyes will work on silk but each has one drawback or another. Some examples: the milling dyes or weak acid dyes (level dyeing difficult especially on silk); supermilling or neutral dyes (good for silk but the Lanaset colors are better); Kiton or strong acid dyes (poor washfast qualities on silk); union dyes such as Cushing (only moderate lightfast qualities on silk); synthetic vat dyes such as Cibalon (complex dye application although the colors are good).

While perusing old historic dyebooks looking for information on silk I came across a poem by Miss H. F. Gould entitled "The Silk-Worm's Will." I

want to share the last stanza with you.

When she finds, at length, she has nerves so firm
As to wear the shroud of the crawling worm,
May she bear in mind, that she walks with pride
In the winding-sheet where the silk-worm died.

Note

1. In northern Italy where the silk dye and fabric industry is alive and well, silk yarn for men's ties is still being weighted with tin salts.
2. This quantity of salt would definitely cause unlevel dyeing as salt used at a pH above 4.5 acts to exhaust the dyes onto the fiber rapidly rather than retard and level. A darker shade may be obtained, but the rapid strike rate would create levelling problems. Adding Epsom salts would create "hard water" giving additional problems to the dyeing.

Bibliography

- "Natural Dyeing of Silk," in *Color Trends*, Vol. I, No. 2 (1985).
- "A Unified Theory of Textile Dyeing," in *Dyestuffs*, Vol. XXXX, No. 80 (1954), pp. 199-212.
- "Wool and Silk Dyeing," in *Dyestuffs*, Vol. XXXXI (1955), pp. 71-74.
- Dufour, Jean. *Teinture Naturelle des Laines*. Paris: Gobelins, n.d.
- Gilroy. *The History of Silk, Cotton, Linen, Wool and Other Fibrous Substances*. New York: Harper and Bros., 1845. pp. 98-137.
- Granach, Ron. *Dye Chemistry Notebook*. Seattle: Cerulean Blue Ltd., 1980.
- Iqbal, Ahmad Siddiqui. *The Art of Dyeing with Vegetable and Mineral Colors*. Karachi, Pakistan: National Book Foundation, Press Trust, 1976.
- Knutson, L. *Synthetic Dyes for Natural Fibers*. Seattle: Madrona Publishers, 1982.
- Kolander, C. *A Silk Workers Notebook*. Loveland, Colorado, Interweave Press, 1985.
- Mathews, J.M. *The Textile Fibers: Their Physical, Microscopical and Chemical Properties*. New York: John Wiley and Sons, 1924. pp. 242-318.
- Review of Colouration Index*. Ilkley, Yorkshire, England: International Wool Secretariat, Development Centre, Valley Drive, 1985.
- Textile Artists Newsletter*. The Silk Issue. Vol III, No. 1 and Vol. II, No. 4, 1980.

PREPARING SILK IN KUMEJIMA

by Alison Mitchell

ON THE JAPANESE ISLAND of Kumejima in the Southern Ryukyu Islands about 600 weavers make Kumejima Tsumugi—a hand-spun, dyed and woven silk kasuri cloth which I previously described in issue no. 37 of *The Weavers Journal*. In this article I describe the various methods used by two of these weavers to produce handspun and reeled silk from silk worms raised on the island.

Bombyx Mori is the name given to all cocoon producing, mulberry eating silk worms. Within this species there are many varieties. The only one reared on Kumejima is called Nisshi-Ko Zasshu, which is a cross between a Japanese and a Chinese silk worm. It produces only one generation of eggs a year which hatch out in spring or autumn. The spring variety is called Shuntéi-Shogetsu and the autumn variety is called Kinshu-Showa.

When I arrived in October of 1982 I immediately looked for people who were raising silk worms and spinning and reeling the silk they produced. After seeing a weaver making *mawata* (see below) on my first day it became obvious that I had arrived too late to see any more of this process or any spinning and reeling. Everyone was now busy tying and dyeing the already spun hanks of silk. I had almost given up hope when a weaver came to my friends' house to tell me that a matchbox full of silk worm's eggs had recently arrived at Uezato Tsuruko's house and these had hatched into silk worms. These eggs had been sent by a weaver in Kyushu (southern mainland Japan) who needed some hand spun silk but was unable to raise her own worms because of the cold weather in her province. Therefore she sent the eggs south to Kumejima where the climate in October is mild enough for young mulberry bushes to flourish thus guaranteeing healthy silk-producing worms. This was normal practice as this weaver in Kyushu regularly used silk spun by the Nisshi-Ko Zasshu caterpillar.

On this island, silk worms are raised only in the autumn or spring, as these times provide the best hatching conditions. Uezato Tsuruko is one of only nine full-time profes-

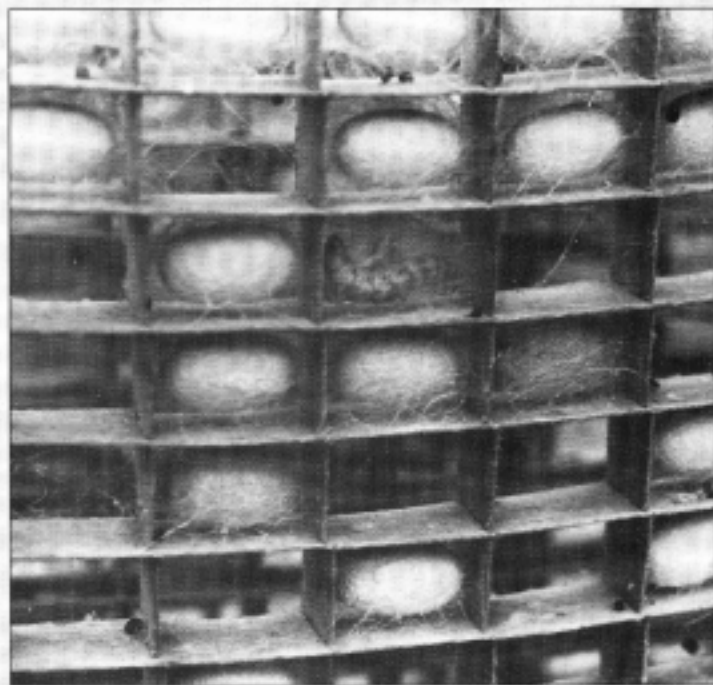


The *mawata* is hung out to dry after it is removed from the frame.

ALL PHOTOS BY THE AUTHOR



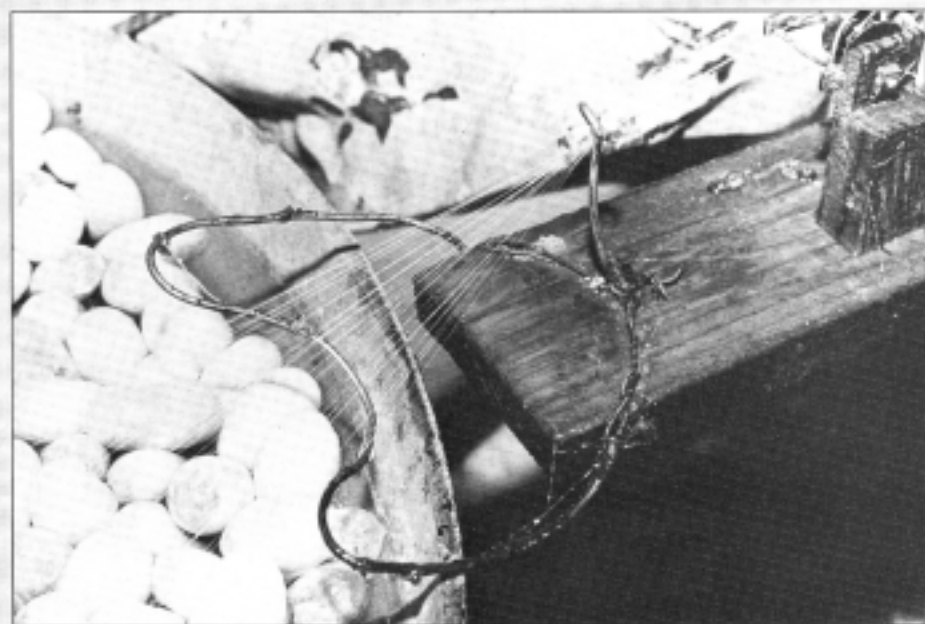
Tiny silk worms spin their cocoons in specially designed cardboard grids.



The filaments are lifted from the cauldron and over a crescent shaped wire apparatus. They are then guided through a wire eyelet and onto a spool.

sional weavers on the island. Other weavers are farmers' wives who only make kasuri when their help is not needed on the land. She therefore supplies many of these weavers with either cocoons so they can spin their own thread or with silk already spun.

The warp for Kasuri must be very strong and can be reeled by machine without any obvious loss of quality. In fact, most of the warp in Kumejima is mass-produced. The weft, however cannot be produced by machine as it has particular qualities which can only be created by first making mawata. All the professional weavers I met, however, preferred the traditional methods and used only homespun and reeled silk.



Having finally found someone who raised silk worms, I went to see her as often as possible. The egg, which is the size of a pin head, hatches into a tiny caterpillar $\frac{1}{16}$ " (4 mm) long and that it grows to a mature $2\frac{1}{2}$ " (6.5 cm) within a month. The worm sheds its skin four times during this period to accommodate its rapid growth. This happens during periods of sleep taking 15–20 hours every four or five days. The last period of sleep lasts about 30 hours and occurs ten days before the worm is fully grown. When the worm awakens it crawls out of its old skin and starts eating again. It likes to eat only soft dry mulberry leaves when it is young, but as it grows older it should be fed stiff leaves because this makes a better quality thread. When the worm is about 25 days old it stops eating voluntarily and finds a convenient place to spin its cocoon. For this purpose cardboard grids are provided, specially designed so that only one worm can comfortably spin a cocoon in the space provided. In the old days these grids were made from rushes that produced irregular spaces in which two worms sometimes spun their cocoons together making the filament impossible to reel. These white cocoons which take six days to spin are 30–40 mm ($2\frac{1}{8}$ – $2\frac{1}{2}$ ") long. They are attached to the grid by loose silk called floss which is removed and saved before the cocoons are sorted into the two grades. Only the best quality, smaller single cocoons are used for the warp silk. At this stage the pupa has to be killed so it does not break the silk filament when it emerges a week later as a moth. This is done by steaming the cocoons over boiling water for 30 minutes.

Before the reeling can progress the *sericin* (natural gum that holds the cocoon together) has to be softened in hot water. I watched Uezato Tsuruko build a wood fire and place over it an iron cauldron filled with water in which more than 100 cocoons bobbed on the surface. The water was heated slowly and great care was taken to make sure it never boiled. If the water becomes too hot the silk filament comes away in blobs. If the water is too cold the sericin does not soften enough to allow the filament to unwind.

After the cocoons had soaked for 20-30 minutes she went outside and picked a leaf from a Yuna tree. The reverse side of this leaf has a slightly rough surface and she stroked this across the smooth wet cocoons. Amazingly the leaf picked up several filaments of silk which she gathered together on one side of the cauldron. She repeated this process until 45-50 filaments were collected from a corresponding number of cocoons. The softened sericin glued them into a single thread which she then lifted over a crescent wire apparatus that hung over the cauldron. This device guided the thread through a wire eyelet and prevented the filaments from straying. She then passed the thread onto a wooden spool which she turned very slowly using a hand operated crank. This procedure took a long time as each cocoon contained about 450 meters (490.5 yds.) of filament. At the end of reeling the spent cocoons looked like transparent sacks and the dead pupae were clearly



Above, strands of silk are reeled onto a wooden spool mounted on a winding apparatus.



To make *mawata*, the silk cocoon is first stretched over a frame.

visible inside. Not even these were wasted but were kept as fishing bait or fertilizer as they are rich in nitrogen. I was even told that on the mainland the worms' excrement has been used in Japanese chewing gum because it is rich in chlorophyll. In China it is still used for making tea.

Finally, the thread must be twisted after the cocoons have been reeled. The durability of the finished cloth is dependent upon this process. First the thread was transferred onto bobbins. Ten of these bobbins were placed on a rack opposite a device similar to a horizontal warping mill. The strands of silk twisted as they slowly unwound off the bobbins, taking a zigzag route threading through eyelets onto the mill. The route is important because it acts as a break and stops the bobbins from unwinding too quickly.

The procedure for making weft silk is completely different from that used to make warp silk. Weft thread is spun from *mawata*, a small (8"/20.3 cm) square "handkerchief" of silk fibers. I observed the method for making *mawata* used by Ushi Yamakawa. She put over 100 cocoons inside a cotton bag and sim-



The *mawata* is placed on a circular turntable and spun on an electric spinner.

mered them for an hour in water containing a pinch of sodium carbonate, to dissolve the sericin. After lifting them out into a basin of cool fresh water, she squatted in front of a hollow square frame. She then picked out one cocoon, turned it inside-out and stretched the silk over the frame. She removed the dead pupa that was stuck on the smooth surface of the frame. This procedure was repeated 15 times. As each layer of fine silk covered the last, the surface became more opaque until finally it looked like a handkerchief. She was so efficient at this process that in less than two minutes she had made one piece of *mawata*.

She then took it off the frame, squeezed it to remove excess water and hung it out to dry. Next, she placed a circular turntable on the tatami matting of her main room and fluffed out the dried *mawata* which was secured to the turntable with sticks. Leaving a space of about one meter (1.09 yds.) between the turntable and her electric spinning device, she knelt on the floor and teased out the fluffed silk, guiding it gently across to an eyelet on the spinner which fed the thread onto a bobbin. The result was a very fine thread with a slightly uneven brushed softness giving the quality known as Kumejima Tsumugi.

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FIGURES IN BOUNDWEAVE

by Phyllis Waggoner



JILA NIKPAY

Left: "Sheep and Shepherdesses." Shown here is the "Shepherdesses" side of the cushion. *Center:* "Self Portrait with Cat." This pillow is woven on a diamond overshot threading with a balanced twill tie-up, 8/4 carpet warp sett at 10 epi; weft is 2 or 3 ply rug wool. *Right:* "Angel Choir." This cushion is woven on the same warp as the "Christmas" wall-hanging on opposite page.

"PICTORIAL," "figured" and "humanistic" are all terms I have used when describing the type of boundweave samplers outlined in this article. I have come across many versions of boundweave during my weaving career and find this type to be especially enjoyable for the colorful patterns and whimsical figures it produces that give the textile a charming folk art quality.

What is Boundweave?

As a background for the sampler project, I would like to share some general information and literature sources about boundweave. Because it is such a versatile weave it eludes a precise definition, but a description of the

general characteristics of boundweave can be derived from the following four statements.

First, it is a weft-rep weave. A strong warp yarn is sleyed wider in the reed than if it were to be woven as a balanced weave. The warp is drawn quite taut, allowing the weft yarn to pack down over the warp and cover it completely.

Second, it is a loom-controlled weave. A surprising number of threading systems can be woven as boundweave. The treadles are usually tied either for a balanced or an unbalanced twill, and when they are tromped, each open shed contains the blocks that produce the design.

Third, it is a rotation weave in which the treadling sequence is repeated over and over. The number of treadles tromped in the se-

quence determines the maximum number of colors one can use in a row of weaving. The treadling sequence causes the weft to *bind* the warp well enough so that no tabby ground is needed to make the textile firm, thus, the name boundweave.

Finally, boundweave is a polychrome weave. The colors of the weft floats create the design: as the treadles are tromped in sequence, the weaver shuttles the desired colors into the blocks to form the patterns and figures.

The Literature

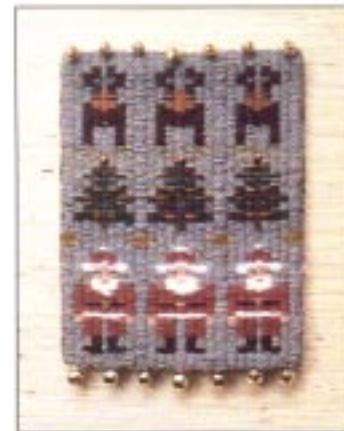
Finding information about boundweave in the weaving literature requires a certain amount of tenacity. Until recently, only a few basic weaving texts referred to boundweave by name, although many texts discuss weaves that could be considered boundwoven. It is interesting to observe the evolution of boundweave as reflected in the literature. In Mary Black's first revision of her 1945 text, *The Key to Weaving, The New Key to Weaving*, (1957), a large portion of the "Miscellaneous Weave" chapter is devoted to various forms of boundweave. It is identified as *type*: weft-face, *pattern*: boundweave. The footnotes for the chapter are a valuable source of early publications on the subject (all out of print). A second revision (1980, *The Key to Weaving*), includes even more information about boundweave in the "Variations and Extensions on Twill Threadings" chapter, but the footnotes have been omitted.

In the past few years, two important sources for the study of boundweave have been published: *The Weaving Book* by Helen Bress, and *Boundweave* by Clotilde Barrett. Bress' book provides a clear picture of the versatility of boundweave when it is linked with various threading systems. Barrett's monograph explores the gamut of threadings, tie-ups, treadlings and variations that produce boundwoven textiles. She also includes exercises intended to familiarize the weaver with the concept of blocks and how they can be used to create a threading draft for an original design.

There are a number of delightful and inspiring weaving books published in Sweden that contain examples of Bunden Rosengång (Bound Rosepath). A recent publication, *Bunden Rosengång* (1983), written by Lisa Petersson, is a study of antique Bound Rosepath coverlets from the Swedish provinces of Jämtland and Härjedalen. This book contains valuable information on the threadings and treadlings for Bound Rosepath as well as photos and technical analysis for duplicating these historic textiles. An invaluable accom-

paniment to understanding these books is the *Swedish-English Textile Glossary*, published by Unicorn Books (1976). Another handsome Scandinavian text with examples of Krokbragd, a Norwegian boundweave, is *The Åkleboka* by Torbjørg Gauslaa and Tov Østby, published in Oslo. Vesterheim, Decorah, Iowa, has published an English translation of the text by Marion and Lila Nelson.

Boundweave, as used on this side of the Atlantic, has a broader range of threading, tie-up and treadling possibilities than its Scandinavian counterparts. Bunden Rosengång and Krokbragd are traditionally woven only on point twill threadings with an unbalanced twill tie-up, and treadled in boundweave fashion. One can find many weaving articles and books published in Canada or the United States that call weft-rep textiles woven on overshot threadings with balanced twill tie-ups, boundweave. It is something of a mystery as to just when and where the transition from the precise limitations of Bunden Rosengång and Krokbragd was expanded to include the many different definitions that we have today. The search for the missing link would make a challenging study.



NIKFAY

"Christmas" wallhanging woven on a 5 shaft diamond overshot threading with the center block of first and third repeats decreased by two threads so that the central figure is wider than its neighbors. The warp is 12/6 seine twine sett at 8 epi; weft is 2 or 3 ply rug wool and some novelty yarns.



NIKFAY

The reverse or "Sheep and Shepherdesses." This cushion is woven using the same warp as "Self Portrait with Cat." The woven profile draft is included on the border designs.

Choosing a Threading Draft

Trees, flowers and humanistic figures can be woven in boundweave on a number of different threading drafts. Although the four shaft Rosepath draft, with a 3/1 tie-up, has been the most popular, I prefer the less cluttered format provided by the point twill or diamond overshoot threading. Both of these drafts have an ascending and descending arrangement of same or similar sized blocks without the extra block that punctuates each repeat of the Rosepath draft. (figure 1)

A pattern block is a threading unit (one thread or a group of threads) that the weft floats over on the face of the weaving. Both the four-shaft point twill with a 3/1 tie-up and the four-shaft diamond overshoot draft with a 2/2 tie-up have seven pattern blocks in each threading repeat. The first and last blocks usually perform the role of separating columns between the figures, which leaves five pattern blocks for developing the design. The number of blocks can be increased by expanding the threading to include more harnesses; the drawback with this increase is that, with the addition of each harness, there is another treadle to tromp and a shuttle to throw for the completion of one row (figure 2).

Pushing The Technique

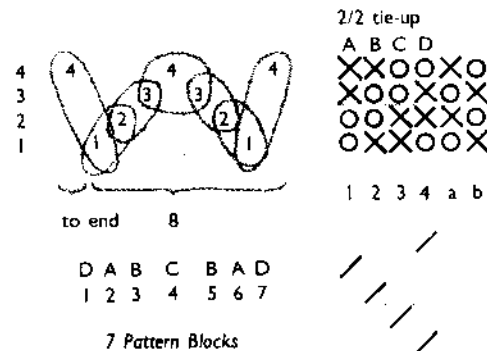
Design limitations imposed by a loom-controlled weave always challenge the weaver to "push the technique" as far as possible. The limitations imposed by the threading draft firmly establish the size and location of the pattern blocks across the weaving and throughout the piece. In an overshoot draft, the blocks can be altered in width at the time of the threading by increasing or decreasing the number of threads in one unit. For example, a 4,1,4,1,4 block could be reduced to 4,1,4 in one threading repeat, thus making that block smaller than its counterpart in another threading repeat. Shaft switching would be another way to change the width of the blocks at will during the weaving. Tapestry, inlay and pick-up techniques can also be used to circumvent the threading restrictions.

Designing The Figures

The figures for boundwoven pieces can be designed either on graph paper or at the loom. When developing your ideas on graph paper, remember that the design must be bilaterally symmetrical. Sometimes it is useful to examine photos of an object, noting placement of features, proportions and other de-

- = sinking shed
- x = rising shed
- + x = counter-marche

Rosepath



Rosepath

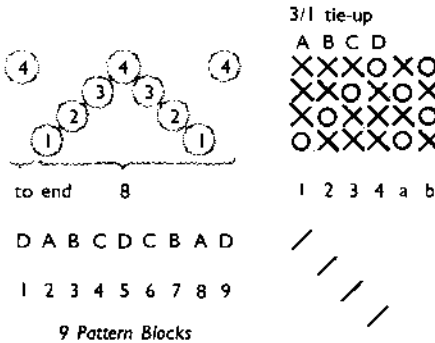
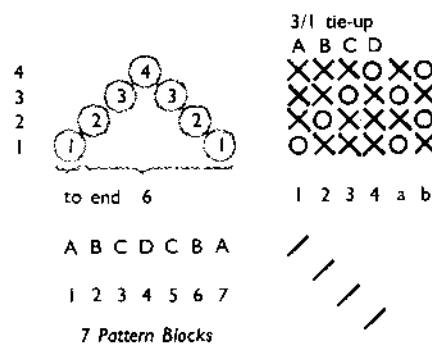
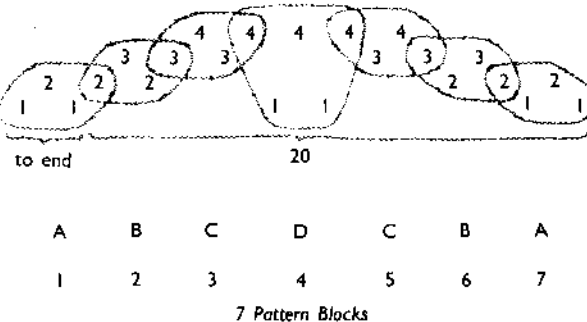


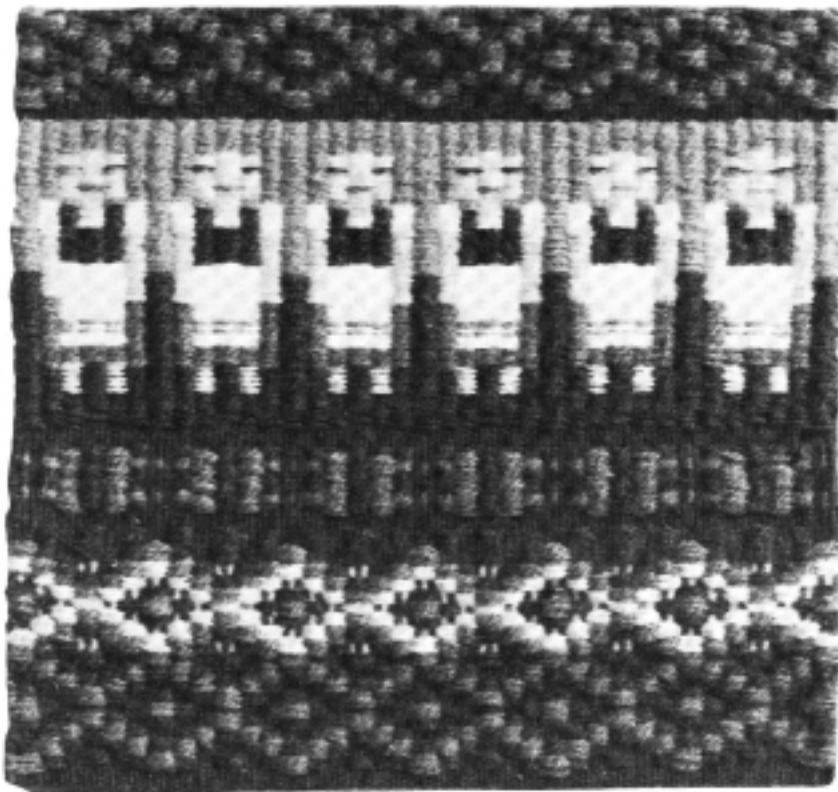
Figure 1.

Point Twill



Diamond Overshoot





"Country Maids" sampler woven on the same warp as "Self Portrait with Cat." The borders are Italian Boundweave.

the selvages by choosing the block that appears at the selvages for the separating block. After weaving a few figures, you will become familiar with the placement of the blocks and how they can be combined to build figures. The thickness of the wefts determines the number of times a row must be repeated before shifting the colors. Beware of an eagerness to see the finished product, for it might entice you to move on too soon without building the portions of the figures high enough, which would result in short, squatty people. Add one or two extra rows to compensate for the wefts packing down as the weaving progresses.

The Treading Sequence

There are situations when it becomes necessary to vary the treading sequence. When the treadles are tromped in a 1,2,3,4 order, the wefts are layered in the row forming a point twill line. $\text{---}\text{---}\text{---}\text{---}$ Depending upon the thickness of the wefts, the line is more or less noticeable and can distort the figure. To alter the direction of the line, the treading sequence can be reversed, $\text{---}\text{---}\text{---}\text{---}$ or the treadles can be tromped 1,3,2,4 $\text{---}\text{---}\text{---}\text{---}$

to straighten the twill line. Bress and Barrett both discuss this problem and its solutions. The *Bunden Rosengång* book shows a treading variation that saves both time and yarn. It is used when the treadles are tied for a 3/1 twill. The tabby treadle can be substituted for its components if the same color is to be used in both sheds, for example, instead of weaving 1-b, 2-b, 3-b, 4-p, weave tabby 1, 3-b, 2-b, 4-p.

The Floating Selvedge

The selvages in boundweave are the focus of much discussion and concern. For selvages that are alike in size and color, begin and end the threading on the same harness and with the same block. A floating selvedge is usually necessary for keeping order among the various shuttle sequences. It is best to prepare the floating selvages separately from the warp. Cut and measure four additional warp yarns a yard longer than the warp. Sley through the reed in the next possible dent and bring through the harness frames but not through a heddle. Hang the floating selvedge over the back beam, make a slip knot to hold a weight and wind the excess into a "butterfly". The amount of weight placed on the floating selvedge is determined by the strength of the warp yarn and the tension on the warp. The right amount of weight makes the floating selvedge just a bit more taut than the warp, which helps to prevent the selvages from drawing in. Too much tension causes the weft to build up at the selvages and can break the floating selvages. I use a 1 lb. weight for 8/4 carpet warp and 12/6 seine twine and 1 1/2 lb. weight for linen warps. A notebook ring or S-hook is useful when attaching the weight to the floating selvedge. Generally the shuttle enters the shed over the floating selvedge and exits under it, although the selvages look just as good if the opposite direction is taken. The important thing to remember is to consistently follow one procedure throughout the entire piece.

Weaving the Selvages

Boundweave provides the liberty for using many different colored wefts in weaving the designs, but with this freedom comes the problem of handling all the wefts along the selvages. A basic rule is to always place the last shuttle thrown behind the previous one, causing the wefts to consistently overlap each other in the same fashion at the selvedge. This procedure is satisfactory when a color sequence is repeated for a long duration. If the colors are changed frequently, then the sel-

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AFTER SEVERAL SUMMERS of experimenting with natural dyes, I had accumulated a sizeable basket full of hand-spun, plant-dyed yarns. I was searching for a special project that would show to advantage small amounts of various weights and textures of yarns in many closely related colors, and reduce the contents of my sample basket as well.

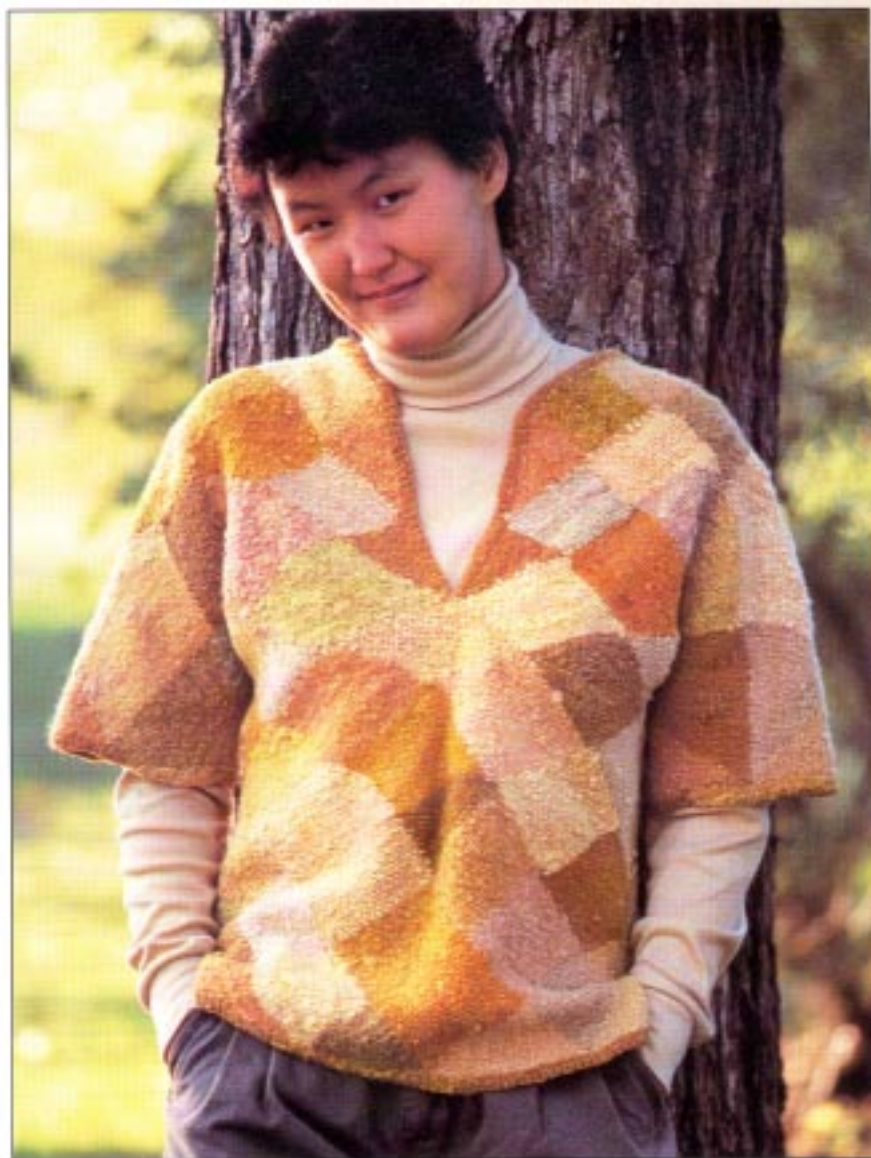
In working with pre-Columbian textiles at the Science Museum of Minnesota, I had become intrigued with some pieces woven in a technique called *discontinuous warps and wefts*, or *scaffold-weaving*. This is a needleweaving technique done over a skeleton framework of a few widely-spaced warps and wefts. This framework, the scaffold, creates a grid on which independent sections of needleweaving can be worked. As each section is woven, it is joined to the warps and wefts of the section next to it by an interlocking technique. The possibilities for color interaction with this technique appealed to me. I decided to make a special shirt with my bits of natural-dyed wool, and set out to construct a "loom" for it.

I found a 30-inch square piece of plywood in the garage—big enough for the outline of a short-sleeved shirt. I made a paper pattern for the size and shape of the shirt and traced its outline onto the plywood. I then proceeded to pound nails at two-inch intervals into the plywood along the shirt outline. Now my loom-frame was complete, and ready for the scaffold warp.

I used monofilament nylon to set up the scaffold grid. Any strong, non-stretchy thread can be used. The pre-Columbian textiles were usually worked on a square grid, which would require the fishline to be stretched horizontally across the loom at each nail along the sides, and then vertically at each nail along the top and bottom.

I decided to add some design interest (and some bias draping quality) to my shirt by forming an oblique grid with the monofilament, stretching the line diagonally across the loom in two directions. A final wrapping of monofilament around each nail along the shirt outline completed the framework.

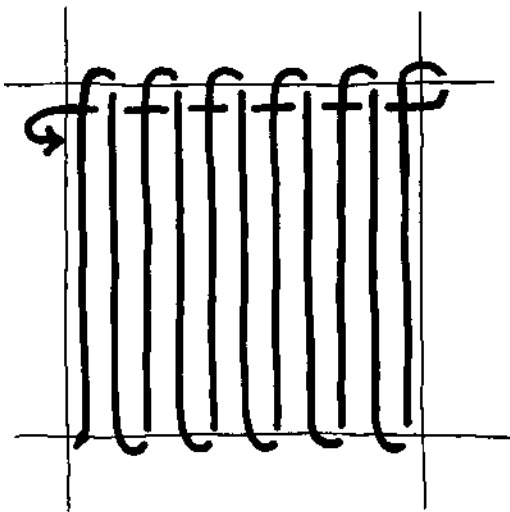
Once the skeleton framework of monofilament was established, the actual weaving could commence. I selected my colors and threaded a tapestry needle with the first warp color. I



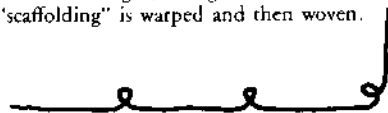
Scaffold Weaving

*A contemporary garment inspired
by an ancient technique*

by Karen Searle



To begin, a single section of the "scaffolding" is warped and then woven.



The frame is warped by stretching monofilament line across its length and width, wrapping it around each nail in turn.

"warped" one section of the grid, wrapping the yarn in a figure-eight fashion around the monofilament borders.

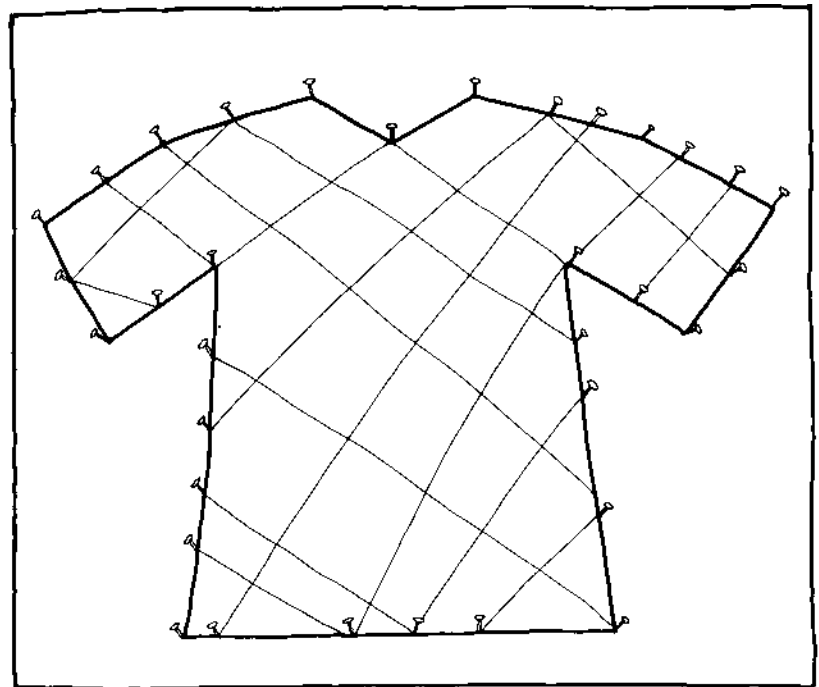
I then began to needleweave over and under these warps, bringing the weft around the monofilament line at each side.

The second square, adjacent to the first, was warped and woven in a similar fashion, except that the wefts of the second square interlocked with the wefts of the first square. At the edge, the weft yarn went over the monofilament border thread *and* through a selvedge loop of the first square.

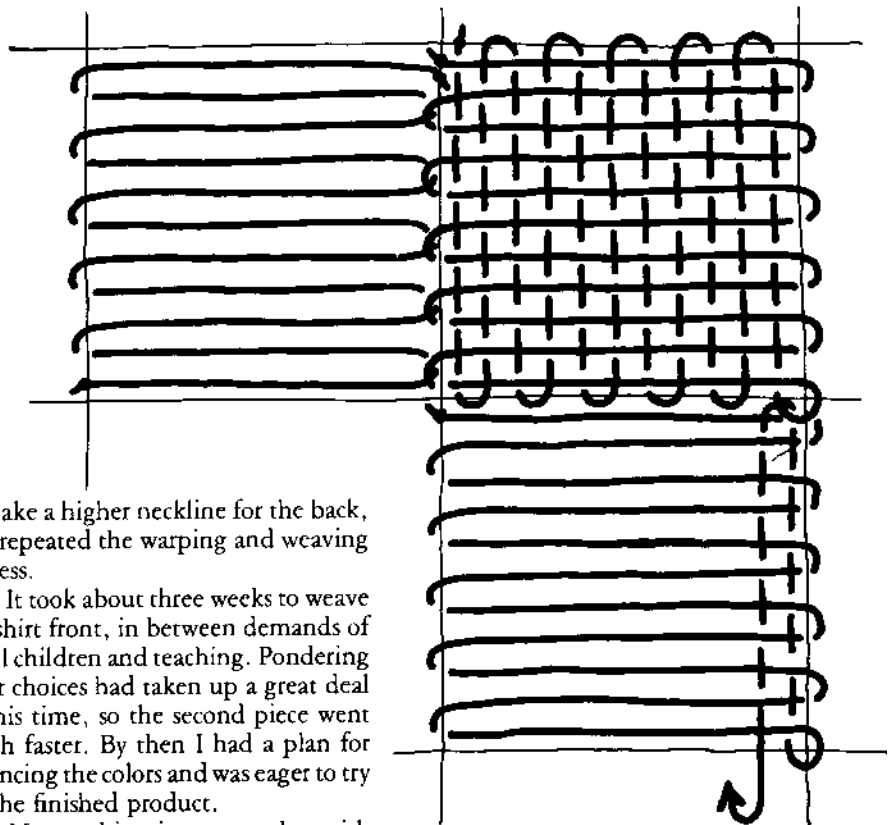
Squares formed above or below previously woven squares had their warp threads interlocked with the warp selvedge loops of previous squares. Soon, each square was interlocked with the four squares surrounding it by joins at each turn of the warp and weft.

This is, needless to say, a slow weaving process, but it was very satisfying and exciting to watch the garment grow. If I didn't like what was happening with a color in a certain spot, it was very easy to change it.

When all of the grid squares were filled in with weaving, the shirt front was complete. To remove it from the loom, I cut each monofilament thread and pulled it out of the weaving. A solid piece of fabric was left lying in the center of the board: one-half of my shirt! I changed a few nails in the board



Nails form the shirt outline on a plywood board.



Adjoining sections are warped by passing the thread through each warp loop and/or weft loop of previously woven sections.

to make a higher neckline for the back, and repeated the warping and weaving process.

It took about three weeks to weave the shirt front, in between demands of small children and teaching. Pondering color choices had taken up a great deal of this time, so the second piece went much faster. By then I had a plan for balancing the colors and was eager to try on the finished product.

My two shirt pieces, complete with sleeves, were loom-shaped with slight curves at the shoulders and a slight flare at the hips, so it fit very well, without having a "boxy" look. After weaving the shoulder and side seams together, I trimmed the edges in crochet, again using small amounts of the various colors. When I wear it, it evokes fond memories of the spinning, dyeing and



Pre-Columbian Peruvian example of discontinuous warps and wefts in the collection of the Science Museum of Minnesota.

weaving processes that were so enjoyable for me. It didn't keep my natural-dye yarn basket empty for long, however. I can't seem to stop experimenting with dye plants, and now I'm looking for another project to use up various weights and textures of yarns in many closely related colors . . .

References

Dendel, Esther Warner, *Needleweaving . . . Easy As Embroidery*. Countryside Press: Philadelphia, PA, 1971.
 Rowe, Ann P. *Warp-Patterned Weaves of the Andes*. Washington D.C.: The Textile Museum, 1977.
 Tidball, Harriet, *Peru: Textiles Unlimited* Vol. 1. Tidball, 1969. (Shuttlecraft Guild Monograph 25).

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Seminar: The Flexible Medium

"The Flexible Medium: 20th-Century American Art Fabric," a seminar sponsored by the Smithsonian Resident Associate Program and the James Renwick Collectors Alliance.

April 27, 1985
Washington, D.C.

The topic was the history of a major twentieth century art movement—the American art fabric since 1930. On April 27, 1985, about 150 artists, writers, educators, collectors and curators congregated in Washington to hear four speakers who are part of this history.

Ed Rossbach, Professor Emeritus of Design, University of California at Berkeley, described the situation during the 1930s–1950s. Handweaving in the 1930s was considered a quaint "Old World" activity, not a serious occupation. Weavers' guild members and other traditionalists enjoyed this "romance" but those weavers who felt themselves to be artists were repelled by it, and cruelly rejected the hobbyists.

Mary Atwater, educator and brilliant textile analyst, promoted hobby weaving. Her primary contribution was to publicize weaving technique, especially overshot coverlets. She also fostered appreciation of plaited and other non-loom textiles. Recent photographs of Atwater's "modernistic patterns" reveal her considerable artistry. But because of her hobbyist philosophy, her contribution was difficult for weaver-artists to acknowledge.

A folkloric/European model was provided for handweaving in the 1930s by the extremely influential Cranbrook Academy of Art whose teachers, looms, and studio weavers all came from Northern Europe. Rossbach speculated on what might have been, had the influence come from Asia.

Hobby/folkloric/traditional attitudes were challenged in the 1940s. Bauhaus-trained weaver Anni Albers was particularly influential, asserting that handweaving could be either industrial design, or art. Most 1940s and early 1950s teaching emphasized the former, and bland "minimalist" samples for industry became the things to weave. Curiously, despite this supposed industrial focus, few handweavers actually worked with industry.

San Francisco weaver Dorothy Liebes offered a different 1940s model. Her bold, colorful fabrics incorporated brilliant silks and other sparkling, reflective materials. She challenged the prevailing minimalism and rigidity, experimenting with plaited elements, Chinese ribbons, leather, beads, and metallics.

Other creative Bay Area weavers were working during those years. Lydia Van Gelder made highly textured weavings throughout the 1930s and 1940s, including a major work, "Houses on a Street" (c. 1939), displayed at the 1939 World's Fair. Lea Miller was influenced by studies of ancient Peruvian gauzes.

She wove sheer gauze casement cloths in the 1940s and early 1950s, experimenting with glass and plastic materials. Both these weavers allowed the surfaces and structures of weaving to be seen in a new way.

A 1953 Trude Guernonprez wall hanging exposed both warps and wefts to view, revealing a very beautiful woven surface. And from 1955 to 1960, Kay Sekimachi worked on a tapestry series with poetic imagery. These evocative works, including "Reflection I" (c. 1955–1960) possibly were in reaction to the preceding years' severity. As personal statements in weaving they forecast the future.

Sheila Hicks, artist, brought her own experience to a discussion of 1960s/1970s architectural-scale commissions and sculptural off-loom weaving. About the same time that Sekimachi wove her poetic tapestries, Hicks began her off-loom wrapped experiments as a student at Yale. Of her two revered thesis advisors, archaeologist Junius Bird encouraged these Andean-inspired explorations, while Anni Albers rejected them.

As Hicks described her own and others' activities between 1960 and 1980, the international character of art fabric emerged. Indeed, as "rum-runner" for work which she wanted to share, Hicks was an important catalyst.

The Lausanne Biennales and other major 1960s exhibitions stimulated very large personal work. Continuing in this ambitious vein Hicks competed effectively in a highly charged international arena. Her public commissions also grew in scope; she mastered this exceptionally demanding discipline, completing many impressive major international projects.

Hicks credited many individuals for support and nourishment. Particularly important were Claire Zeisler and Daniel Graffin, whose works and faces (among others) graced Hicks' lively talk.

Two 1970s developments were "Wearable Art" and "Surface Design," stepchildren of the art fabric movement, according to Glen Kaufman, Professor of Art, University of Georgia. Faced with a welter of terms for "wearable art" Kaufman proposed some useful categories: "conceptual unweavables" delineated garments as allusions or metaphors; "wearable sculptures" for ritual/ceremony/theater; a third category consisted of one-of-a-kind garments meant to be worn. Kaufman left his audience to ponder the concept behind wearable art.

Surface design was presented along technical lines—screen and photo transfer printing, wax and stitch resist, and direct dye application. Extraordinary technical knowledge and a wide expressive range were demonstrated.

Mildred Constantine, co-author of *Beyond Craft: The Art Fabric*, and *The Art Fabric: Mainstream*, was challenged by her topic, the 1980s, and hesitates at mid-decade to predict

the future. A consistent champion of art fabric, she believes that it has entered the art mainstream. This optimistic appraisal is supported, and the movement's international nature is affirmed, by Sheila Hicks' (U.S., living in France) recent monumental commission of thirty-one tapestries, Toshiko Horiuchi's (Japan) joyous crocheted children's playground, and Virginia Davis' (U.S.) intellectual/illusionist ikat weavings (to mention only a few).

The seminar suggested a complex history for American art fabric. Rossbach's compelling research provided much-needed background on the early years. Hicks' personal tour detailed the movement's dramatic growth, mirrored in her own. Kaufman thoughtfully presented two significant developments which may play prominent future roles. Constantine's lecture and slides affirmed the present and promised the future.

Varied perceptions of the movement's current status sparked a spirited and good-natured exchange between the audience and members of the panel, enlivening the seminar's concluding moments.

Joanne Segal Brandford

Joanne Segal Brandford is a Connecticut fiber artist and writer.

Conference: Transition
Conference of Northern California Handweavers
April 27 & 28, 1985
San Jose, California

"Transition" was the theme and concept around which the 1985 Conference of Northern California Handweavers (CNCH) revolved. Held at the Convention Center in San Jose, California April 27–28, 1985, the conference featured a variety of activities to stimulate and educate weavers at all ages and levels of maturity in weaving and in life. The concept of transition was successfully interpreted literally and abstractly in the large spinning area, as fleece became yarn, in the juried guild and school booth displays featuring transitions in time, technology, color, complexity of weave structures, in the fashion show and in an array of drop-in clinics.

The two main speakers were carefully chosen to expand on and to personalize the theme. Ed Franquemont, weaver, anthropologist and teacher, talked of his and his family's experiences in Chinchero, Peru, an ancient weaving center. Faced with strong western influences, the people of Chinchero nonetheless continue Inca and pre-Inca traditions. Franquemont has enjoyed a close personal relationship with Chinchero weavers since 1976, having been drawn into issues of cultural survival and economic development. His emphasis at the Northern California conference was on transition as it affects a culture.

Lillian Elliot, teacher, artist, and prolific



LEPPER

Peruvian weaver Nilda Callañaupa demonstrates at the Northern California Handweavers Conference, San Jose, California.

weaver and exhibitor of baskets and tapestries, spoke on influences which affect weavers as individuals. Drawing on her extensive knowledge of textiles, as well as historical, ethnic and contemporary sources, Elliot dealt with transition as it affects us, personally, and as it affects our weaving.

To complement the two main speakers and to further exemplify the theme of transition, Ramona Sakiestewa, a contemporary Hopi weaver from Santa Fe, New Mexico, and Nilda Callañaupa, a young prizewinning weaver from Chinchero, Peru, took part in all program activities. Sakiestewa and Callañaupa first met in Chinchero in 1981 when Nilda was a teenager; CNCH provided an opportunity for their reunion.

In Chinchero, learning is an active observation process in which there are no formal teachers. Using the Chinchero learning format, five drop-in clinics were held on Saturday afternoon. The clinics consisted of a short (5-15 minutes), formal presentation followed by informal discussion, questions, and demonstrations. This arrangement enabled leaders and participants to interact more fully and more personally, enhancing areas of interest by dealing with specifics. Clinic leaders and their topics were: Jim Ahrens, looms; A. David Xenakis, complex structures on simple looms; Anita Luvera Mayer, handwoven clothing; Ramona Sakiestewa, Pueblo textiles, and Nilda Callañaupa, Peruvian weaving techniques. No sign-ups were required; each participant could attend as many clinics as she/he desired, since each clinic was repeated several times.

Located in the heart of "Silicon Valley,"

San Jose seemed an ideal location for combining weaving and the computer—a striking example of contemporary transition. Computer graphics, drafts and drawdowns, as well as actual fiber works produced with computer assistance were exhibited. Emphasis was placed on the variety of computer uses for the weaver. Several computers were available for hands-on experimentation of graphics for generation of designs and popular weaving software programs. An extensive bibliography of computer/weaving materials was available for those interested.

More than one hundred spinners and weavers participated in six workshops held on the three days following the conference. Leaders of the workshops were Sharon Alderman, Ed Franquemont and Nilda Callañaupa, Olive and Harry Linder, Anita Luvera Mayer, Martha Stanley, and A. David Xenakis. Despite the pace of the preceding weekend, interest and energy levels remained high during the workshops with additional transitions taking place personally and professionally.

The Conference of Northern California Handweavers is composed of thirty handweaving guilds located in the area north of the Tehachapi Mountains in Northern California and in the area of northern Nevada represented by the Reno Fiber Guild. Approximately one thousand weavers belong to the member guilds. The conference is presented each spring. CNCH '86 will be held in Stockton April 26 and 27, 1986. The theme is "Weaving Internationale." For information and registration forms contact Registrar, CNCH '86, P.O. Box 172, Merced, CA 95341.

Fibers Alive in '85

Midwest Weavers Conference
June 7-9, 1985
Bloomington, Indiana

The 32nd Annual Midwest Weavers Conference was held on the Indiana University campus, Bloomington, Indiana, on June 7-9. The host guild was the Bloomington Spinners and Weavers. Approximately 700 fiber artists from throughout the United States gathered together for three days of lectures and seminars. More than 100 people stayed on for three more days of post-conference workshops. Fifty-eight seminars and seven workshops were offered on a wide range of topics, from tapestry and rag weaving to drawloom weaving. Additional highlights included a fashion show, "The Art of Adornment," and a sheep-to-shawl contest.

In her keynote address, "A Sense of Commitment," fiber artist Diane Iltter defined some of the problems facing the art fabric field and posed some possible solutions. She sees obstacles to fiber artists in the over-diversification of the field. The "fiber" category encompasses many art forms and many artists become over-involved with materials and technique. The historic relationship of fabric arts to domesticity has been a stumbling block to artists as well. She stressed a need for professionalism in the field, and a more focused, concentrated approach on the part of fiber artists.

Artist and basketmaker Shereen LaPlantz

Sheep-to-Shawl contest at the Midwest Weavers Conference, Bloomington, Indiana.



SEARLE

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presented an inspirational discussion of design and personal style in her address "Basketry . . . a Personal Imagery." She illustrated her lecture with slides showing the development of her work. An additional treat consisted of slides from a recent basketry exhibition.

The conference exhibits were highly representative of the outstanding talents of weavers and spinners throughout the mid-west. Cash awards and Certificates of Award were presented to prize winners in the Fashion Show, Individual and Guild exhibits, and the Sheep-to-Shawl competition. Best-of-Show award in the Fashion Show went to Marilyn Holtzer for her tablet-woven skirt. Best-of-Show for Individual exhibits went to Nancy Hettenhouse for her pulled-warp tapestry, "Tangential Illusions." The Libby Crawford Memorial Award went to Margaret Skreko for "Diptych," *kuvikas* tapestry. The Judges Choice Award went to Fritz Steiner Burt for her "Points of Contention" tapestry, and the Members' Choice Award went to Elmyra Tidwell for her silk tapestry necklace, "I Remember You St. Louis."

Next year's conference will be held in Denver, Colorado.

Jeune Baker

Wool On a Small Scale

Utah State University

June 23-26

Logan, Utah

A new conference of interest to fiber artisans took *The Weaver's Journal* to Logan, Utah, June 23-26, for the first annual "Wool on a Small Scale" conference. Sponsored by Utah State University for "small flock growers and wool crafters," it attracted participants from a variety of cultures including Navajo and Hispanic weavers and growers from the Southwest.

The needs of Navajo weavers and the reservation sheep industry were highlighted at this first meeting. (See the article by Lyle G. McNeal in this issue.) By looking at the Navajo's situation, a picture of larger issues in the American sheep industry emerged: the low prices fleece is commanding today; the difficulty in marketing colored sheep wool effectively and the lack of recognition by the larger sheep industry of the importance of smaller flocks and of colored sheep wool.

The conference offered an impressive array of workshop topics from "Produce and Market Wool for Maximum Profit" (Connie Taylor) and "How the Type of Wool Affects the Finished Product" (Robert Donnelly) to "What to Do if You Don't Have Veterinary Services" (Dr. Don Bailey) and "Sheep Tracks Through the Ages" (Ingrid Painter). Navajo spinning and weaving classes as well as other classes in weaving and the use of handspun yarn added a "hands on" dimension to the conference. In addition, there were tours to the local wool mill, museum, laboratories and sheep flocks.

This conference was a refreshing change of pace, well-suited to weavers and spinners who have an interest in the broader issues touching their craft and who appreciate the contact such a conference can provide with a new and interesting range of people.

Sue Baizerman

Colloquy

The Looms at Mineral Point

June 28-July 2, 1985

Mineral Point, Wisconsin

The Looms Museum and School in Mineral Point Wisconsin provided an appropriate setting for dialogue to take place between conference participants and workshop leaders June 28-July 2. Twenty-eight weavers of vary-

ing backgrounds, from relative beginners with four-harness looms to multi-harness, draw loom and production weavers came together both to learn and to share their experiences.

Guest lecturer Stephen Simpson, of Llangollen Mill, Wales, spoke during part of each day on various aspects of wool and wool finishing from a textile mill standpoint. He gave the participants a new outlook on yarn counts, sett and various sett theories, and on fabric finishing methods used in industry. The final morning included a "hands-on" demonstration of finishing techniques.

Other formal presentations during the four days were given by Peter Straus of AVL Looms, demonstrating the latest computer applications for weaving, and David Xenakis of *The Prairie Wool Companion*, leading a discussion of warping and weaving problems and, with Madelyn van der Hoogt, demonstrating the operation of the draw loom.

Time was allotted for informal presentations by participants who wished to share information on some of the work they have been doing. These included Madelyn van der Hoogt, double weave coverlets; Bro. Kim Malloy, double weave on the draw loom; Laura Fry, a guild study on finishing; and Jacquie Kelly, replication of antique car upholstery and trim. As a rare treat, host Ken Colwell showed his Paisley shawl collection.

For those able to stay an extra day, a visit to the Helen Louise Allen Textile Collection at the University of Wisconsin, Madison, was arranged.

The relaxed atmosphere made the discussion and exchange aspect of the conference very valuable. One conclusion reached unanimously by those attending was that the handweaver has much to learn from the textile industry. Another was that Colloquy should be held again next year.

Karen Searle

BOUNDWEAVE from p. 63

all 10 treadles on my loom, 4 for a 2/2 twill, 2 for tabby and 4 for a 3/1 twill, which enabled me to experiment with many treadling sequences. After weaving this sampler, I wanted to try a threading with more blocks, so I put on a warp of 12/6 seine twine sett at 8 epi. The draft was three repeats of a 5 shaft diamond overshot threading with a 3/2 tie-up; the middle block of the first and third repeats was decreased by two threads so that the central figure would be wider than its neighbors. There is no tabby possible with this threading so I used two treadles that were close to op-

posites when weaving the back of the cushions.

Constructing a Cushion

If you plan to make cushions from the boundweave sampler, weave an inch and a half of tabby (using doubled warp yarn for the weft) at the beginning and end of each section. This will be the seam allowance for sewing the cushion length together. A row or two of tabby woven in the middle will make it fold easily when constructing the cushion. Fold the piece in half with the face to

the inside and the tabby seam allowances together; machine stitch very close to the weaving. Turn the face to the outside, and fill with a pillow form, sew the two side seams together with an overcast stitch using the same weft yarn that appears along the selvages.

In Sweden, Bunden Rosengång is called an art weave. Certainly the expressiveness of its patterns and figures have filled many Scandinavian hearts with delight. A boundwoven cushion or wall hanging populated with "little folk" depicting family members or narrating a personal event can be your own

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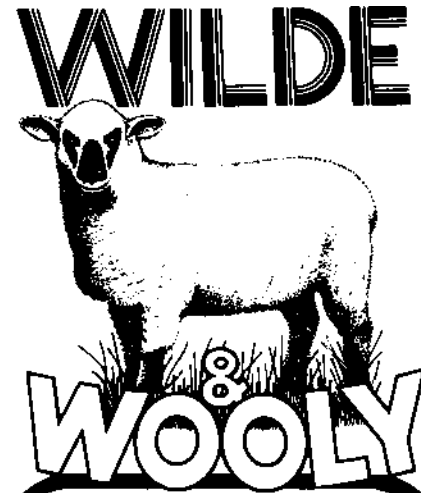
Bibliography











- Barrett, Clotilde. *Boundweave*. Boulder, Co.: Colorado Fiber Center, 1982.
- Black, Mary E. *New Key to Weaving*. New York: Macmillan, 1957.
- Bress, Helene. *The Weaving Book, Patterns and Ideas*. New York: C. Scribner's and Sons, 1981.
- Collingwood, Peter. *The Techniques of Rug Weaving*. New York: Watson Guptill, 1968.
- Frey, Berta. *Designing and Drafting for Handweavers*. New York: Macmillan, 1958.
- Gauslaa, Østby. *Åkleboka—Nye Monstre i Gamle Teknikker*. Oslo, Norway: Landbruksforlaget, 1977. [English translation by Lila and Marion Nelson, Vesterheim Norwegian-American Museum, Decorah, Iowa 52101]
- Hickman, Elmer. Folio No. I, *Krokbragd and Monks Belt*, Folio No. II, *Rosengång Art Weaving*. 1948 (out of print).
- Landis, Lucille. *Twills and Twill Derivatives*. Avon, Conn: Book Barn, 1977.
- Nilsson, Anna-Stina. *Väv i Rosengång och*

- Murkåbälte*. Vasterås, Sweden: ICA Bokförlag, 1982.
- Petersson, Inga Lisa. *Bunden Rosengång*. Stockholm: LTS Förlag, 1983.
- Regensteiner, Else. *The Art of Weaving*. New York: Van Nostrand Reinhold, 1970.
- Textile Glossary—Finnish/English; Swedish/English*. Rockville, MD: The Unicorn, 1976.
- Tidball, Harriet. *Merry Christmas, Handweavers*. Santa Ana, CA: HTH Publishers, 1963.
- Tidball, Harriet. *The Weaver's Book*. New York: Macmillan, 1961.

Periodicals

- Alderman, Sharon. "Krokbragd," in *Handwoven*, Vol. II, No. 2 (March 1981). p. 33.
- Ingebretsen, Catherine. "Selvedges for Krokbragd and Other Weft-Faced Cloths," in *The Prairie Wool Companion*, Issue No. 2 (April 1982). p. 62.
- Lihagen, Elisabeth. "Krokbragd från Norge (Krokbragd from Norway)," in *Väv Magasinet*, No. 2 (1983).



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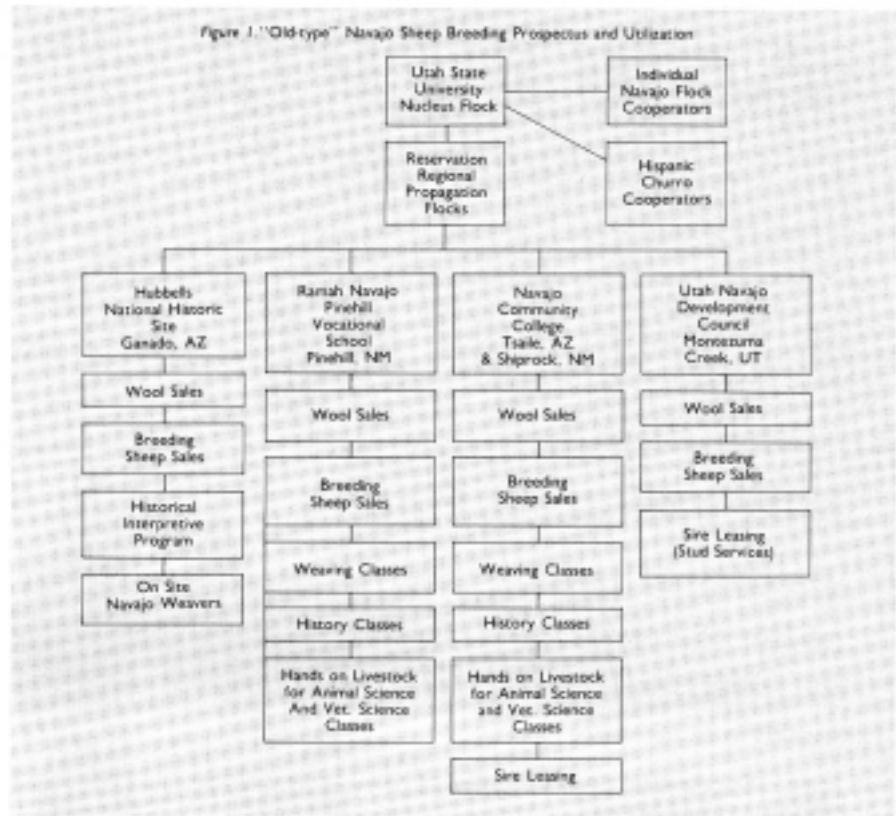
Utah State University's Navajo Sheep Preservation and Development Project

Although I have been working on this project concept for many years, identifying, cataloguing and breeding began in earnest in 1977. Our flock began with six ewes and two four-horned rams donated by an old rancher who indicated the sheep originated from around Fort Wingate, New Mexico, where the U.S. Department of Agriculture had their Navajo sheep breeding laboratory. Since 1977, project team members have returned to the Navajo Reservation many times each year to work with the Navajos and their sheep production and management problems. Many people have helped the project team in a search over 16 million acres for other representative "old-type" sheep to add to the nucleus flock, including traders, livestock buyers, Navajo tribal leaders, Navajo students enrolled at Utah State University, weavers, and Agricultural Extension personnel in the Four-Corners area.

At the present time the nucleus flock contains about 65 mature breeding ewes. The primary short-range objective of the project is to build up the flock to a stable 150 ewes and, with the offspring of the USU flock, to deliver seedstock to a secondary propagating flock located somewhere in the four-corners area. The USU Project has been approached by four prospective sponsors for the secondary propagating flock. These are: Navajo Community College (Tsaile, Arizona), the Hubbell's Trading Post National Historic Site (Ganado, Arizona), Ramah Navajo Reservation, Pinehill School (Pinehill, New Mexico), and Ganados del Valle, (Los Ojos, New Mexico). (Figure 1). Unless a sizeable grant can be acquired to help support the project and its lateral work with the Navajos, sheep from the nucleus flock may have to be sold. If this is the case then the project and its goals may be severely curtailed.

Economic Implications

According to the Navajo Division of Labor, 35 to 45 percent of Navajos are unemployed. This labor office indicated that the unrecorded unemployment rate is as high as 80 percent. Many



Navajos have quit looking for employment on the reservation. To illustrate the poor economic situation of many Navajos, the average annual income per person is \$1,500 compared with the national average of \$16,000. Also, the Division of Social Welfare reports that of the 160,000 Navajos living within the reservation boundaries, 28,000 Navajos receive assistance checks or welfare payments for family income. The majority of these recipients are women and their children. Many of these adults are uneducated and unskilled in salaried occupations.

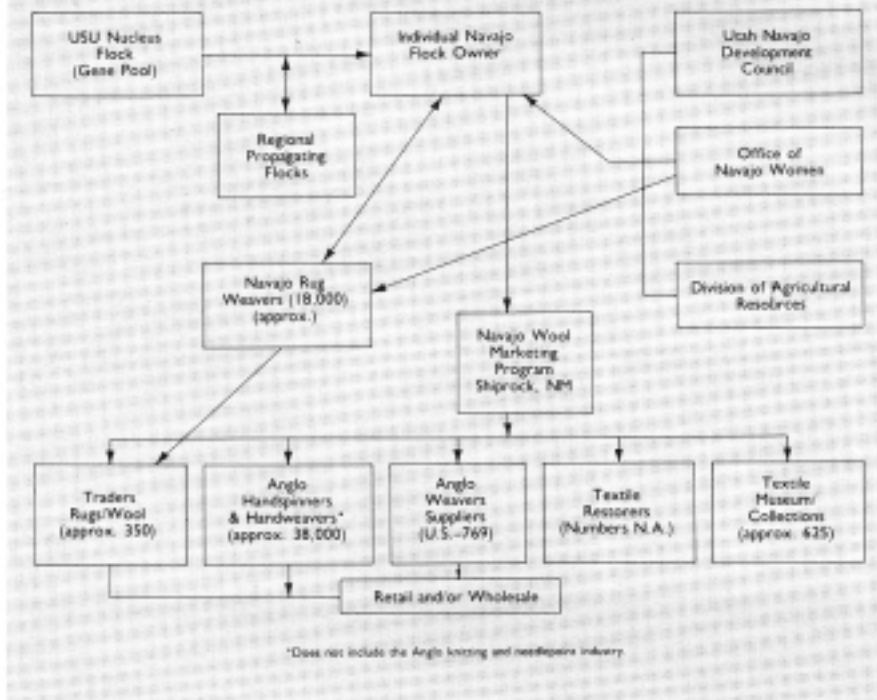
The one group of women that has a product and skill are the weavers who primarily herd sheep and live traditional Navajo lives. It is estimated that there are 18,000 weavers. These women, taught to weave as young girls, tend to live in the remote areas of the reservation in order to graze their sheep for the production of wool for spinning and weaving. Many weavers rely on their sheep and weaving for their yearly family incomes.

Too many weavers have been exploited by non-Navajos and neglected by the Navajos themselves. Weavers possess a wealth of knowledge and experience in a Navajo traditional economic system which existed before

America's attempt to industrialize the American Indian. It is estimated that weavers receive only 25 cents per hour for finished products. The local trading post that pays the weaver by crediting the sale of products to her accounts is the usual market contact. Her work is often seriously underpriced. In order to sell more profitably, the weaver may travel a great distance to a city where she might or might not have the opportunity to make sales before leaving town. The weaver has skill and a product. She needs support, an improved raw product, (Churro type sheep and wool), more technical information on sheep and wool management, new markets and better marketing strategies.

The Utah State University Navajo Sheep Project has provided and will continue to provide those support activities to the Navajo wool growers and weavers. The project presently works through the Office of Navajo Women's Wool Growers and Weavers Association. Pilot work conducted cooperatively to explore the market potential of weavers utilizing "genuine" Navajo wool has resulted in almost a doubling of the woven end product. It is also estimated that a Navajo sheep grower who doesn't weave could triple her gross income by converting to the "old-type"

Figure 2. Individual Navajo Flock Owner-Weaver and Potential Market Outlets for Commodities



Navajo (Churro) sheep. Although markets for Navajo raw wool, spun yarn, rugs, textiles, breeding sheep and other products have yet to be fully explored, through an organized cooperative such as the Navajo Wool Growers and Weavers Association the total sheep, wool and textile industry could be developed into a sound and profitable venture. This would involve both industry expertise and the training of an active and involved staff of business oriented personnel to aggressively work

with non-traditional strategies for marketing and development (Figure 2).

The Navajo Sheep Project at USU has served as a catalyst to motivate the current tribal leaders to look introspectively at the prospects of economic self-sufficiency by that segment of the Tribe

that is considered to be staunchly traditional. The potential for financial success and economic independence is possible, but depends largely on the desires and dedication of those individuals within the Navajo Nation to meet their economic problems head on. If funding can be obtained, the USU Navajo Sheep Project will continue to provide its outreach program to designated leaders and educational institutions on the Navajo Reservation. This program consists of on-site workshops, seminars, hands-on instruction, frequent educational newsletters, assistance with ram selection and procurement and many other sheep and wool oriented activities.

Conclusion

A nation so intent on preserving its insects, plants, fish and other wild species should be far more motivated to preserve this animal that has contributed so much to the development of the American Southwest. The benefits over extinction and loss of the Churro or "old-type" Navajo sheep are important not only to the Navajo nation but to American culture as well. Existence or extinction of the sheep could have serious impact on the cultural, social and economic well-being of an ancient society that is an important part of our national heritage.

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Ulrike Beck was born and educated in Germany and graduated as a Masterweaver from Webschule Sindelfingen. She is the co-author of *Jacob Angstadt Designs*, published by Ruth Holroyd. Her specialty is transparent hangings, and she weaves corporate commissions and fabric for liturgical vesture. She lives in Grand Island, New York.

Pat Boutin Wald received her MFA in textiles in 1976 with a thesis exploring color in handmade felt. Her work has been exhibited with the American Craft Council's "Young American Show," and in Manila, The Philippines in "Fiber as Art." She currently designs handmade papers and teaches color workshops for fiber artists.

Andrea Cesari lives in Allentown, Pennsylvania where she is a researcher for Rodale Press. She has

been weaving for three years and intends to make a career reproducing European harness loom woven textiles of the 12th through the 18th centuries. She also sews, makes bobbin and tatted lace, and chases the cats out of the baskets of chained warp.

Allen Fannin lives in Westdale, NY, where he and his wife Dorothy own and operate a small textile mill, producing a line of woven accessories as well as piece goods for retail fabric stores. Recently he has begun an association with handloom weavers, assisting them in large scale production of their fabric designs. He is the author of *Handspinning, Art & Technique* (1970), and *Handloom Weaving Technology* (1979).

Susan Hick and the loom were first introduced in 1973, and they have been fast friends ever since. Re-

searching "Fashion Trends" provides a bonus for Susan. Her special interest is in weaving yardage for clothing which she sells through Fiber Matrix, a cooperative endeavor in Denver, Colorado.

Connie Magoffin is editor/publisher of *From Woods and Fields*, a natural dye newsletter. She is also a consultant, lecturer and demonstrator of natural dyeing, spinning and weaving. She is presently coordinator of the dye garden at the University of Minnesota Landscape Arboretum. She lives in Minneapolis.

Alison Mitchell has been intrigued by Japanese weaving and in particular the textiles generated on the island of Kumejima which she first visited in 1979. Ms. Mitchell lives in London and has published several articles in the *British Journal for Weavers, Spinners and Dyers*.

Dr. Lyle McNeal is Associate Professor of Sheep & Wool Production in the Animal, Dairy and Veterinary Sciences Department of Utah State University in Logan, Utah. He is founder of the New Zealand-U.S. Cooperative Wool Board Shearing Schools, held in California and Utah. He is manager of the Utah State University Wool Laboratory and for the last nine years has been chairman of the National Wool Growers Association, National Ram Sale Committee.

Lila Nelson is Curator of Textiles at Vesterheim, The Norwegian-American Museum in Decorah, Iowa. She also teaches weaving and maintains the textile program at the Museum. She has lectured extensively on Norwegian weaving throughout the United States. She lives in Minneapolis.

Weaver, spinner and dyer **Sigrid Piroch** lives in Meadville, Pennsylvania. She works primarily with natural fibers. Her current focus is on designing original patterns in unusual and complex weaves with fine threads, emphasizing color development. She has given workshops, lectures, demonstrations and exhibitions in Pennsylvania, Ohio and New York.

Phyllis Waggoner has an M.A. in Design from the University of Minnesota where she taught *Color and Design*. An interest in rug weaving, color and her Swedish heritage led her to study boundweave. She has taught workshops on boundweave at the '84 Midwest Weavers' Conference and at the Weavers' Guild of Minnesota.

Michele Wiplinger is the publisher and technical consultant for *Color Trends*, a newsletter on dyes, use of color and color forecasts for the textile artist. She currently does custom dyework for tapestry and production weavers and does garment weaving as time permits. She has lectured and given workshops on various aspects of dyeing throughout the northwestern United States.

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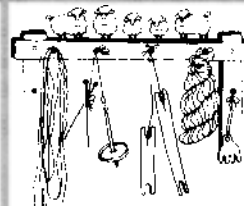
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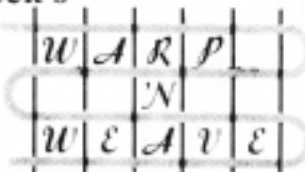
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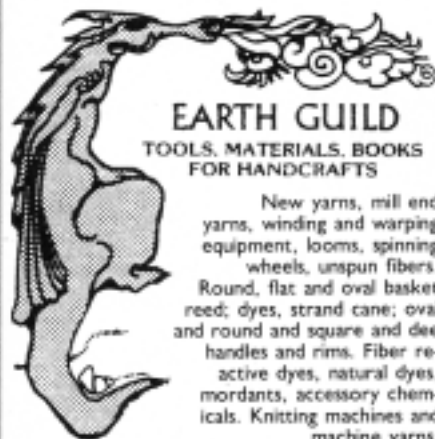
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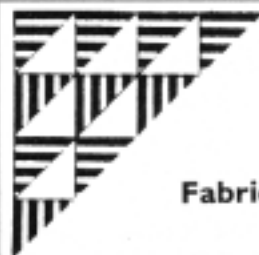
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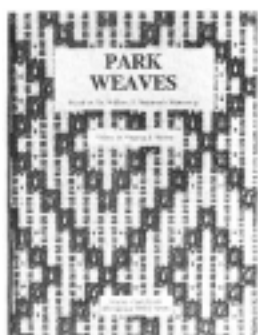
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Reviews

HOW TO WEAVE FINE CLOTH

James D. Scarlett

Reston, Virginia: Reston Pub. Co., 1981.

The Scottish born, self-taught author states in his subtitle: "It's [weaving fine cloth] easy to do with these step-by-step guidelines." Well, it just isn't that kind of book. His introductory chapter on looms surveys available equipment from a lever-operated table loom to a fully automatic Hattersley loom. That should give a clue as to the breadth of his knowledge and ecumenical approach. Scarlett takes us through a discussion of the methods of tensioning the warp. He prefers the tension box method. Allen Fannin in *Handloom Weaving Technology* (Van Nostrand Reinhold, 1979) describes this system as the elastic warp tension (pp. 50-51) and that is exactly what it is. The warp responds elastically when shafts are raised and lowered, rather than rigidly as it does with the standard friction brake or ratchet-and-dog methods. Luther Hooper (*Hand-Loom Weaving*, 1910) also prefers the "elastic tension," considering rigid tensioning systems suitable for "coarse weaving" only. Progressives in the field such as Fannin and Scarlett wonder why this method isn't more universally adopted by handweavers today.

There are chapters on the witch and the dobbie, "Two devices that relieve the weaver of the need to think about what his feet are doing . . ." and there is a wonderful discussion on the pros and cons of the flying shuttle. The section on shuttles reveals Scarlett's preference for the end-feed shuttle and its importance in imparting a proper weft (filling) tension.

He is one of the few handweavers who are aware of the importance of relative humidity and temperature in the weave room. He recommends high temperature and low relative humidity for handling and weaving wool, for cotton and linen, a relative humidity on the high side.

Scarlett's discussion of warping on the mill with the use of the heck block is not to be found elsewhere to my knowledge except in Hooper, who does not illustrate. Scarlett's descriptions are supplemented with photographs of all the working parts.

His sections on yarn calculations are illuminating but suffer from a lack of proper

labeling of the numbers in the equations. I disagree with his preference for string heddles and mails and string tie-ups. Please ignore his suggestion to store wool with a wadding soaked in trichloroethylene. This is a well-known carcinogen and will do you in before the bugs do in your wool.

Chapters on cloth finishing, pattern drafting, tartan weaving, and "Useful Things to Know" round this book off and show it to be a very valuable addition to the library of the handweaver who enjoys the challenge of self-improvement. His last sentence sums up my own feelings: ". . . the sense of achievement when the finished web is unrolled from the loom has to be felt to be believed . . ."

Angela Lakwete

Angela Lakwete is a textile conservator and owner of A Westside Weaver, Harrisburg, Pennsylvania.

PARK WEAVES

Based on Dr. William G. Bateman's Manuscript; Edited by Virginia I. Harvey
Freeland, Washington 98249: HTH Publishers, P.O. Box 468, n.d. 96p. (Shuttlecraft Monograph 37)

Dr. William G. Bateman wove samples during his retirement years. Starting with inkle weaving, he went on to study the unit weaves, using an eight harness table loom. His next step was to combine these unit weaves in many interesting ways. He made specific guidelines for all of these new weaves, and named them: *Multiple Tabby, Bateman Blend, Park, Boulevard, Extended Divided Twill, Extended Manifold Twill, Chevron and Combination* weaves. Many of these combinations made beautiful cloth and they were all interesting. His swatches include experiments in the use of different colors, fibers and thread sizes.

He left copious notes and stacks of swatches which are now in the Costume and Textile Collection at the University of Washington. Virginia Harvey spent several years preparing the Bateman material for publication. This is the third book in a planned series of five. She includes her own notes, suggestions and directions in these books. These directions are clear and easy to understand. Drafts and tie-ups are given.

The Park Weaves require seven or eight

harnesses, and some of the specific rules for Park weaves are: 1. each block starts on harness one; 2. the remaining threads (called a pattern group) in each block begin and end on even numbered harnesses; and 3. conventional tabbies are used.

The threadings for the Park weaves result in chevron or diamond shapes. The tie-down threads are frequent: there are no long floats. These weaves would be excellent for drapery or upholstery fabrics, or for any other weave that requires solid texture.

The possibilities suggested by the Park weaves are so interesting and intriguing that I must get busy and try some experimenting for myself!

Irene K. Wood

Irene Wood is a Minneapolis weaver and teacher specializing in coverlets.

MADE IN NEW YORK STATE: HANDWOVEN COVERLETS 1820-1860

Organized by Margaret W. M. Shaeffer, with essays by Virginia Parslow Partridge and Rita J. Adrosko

Watertown, New York: Jefferson County Historical Society, 1985. 72 p. Available from: Publishing Center for Cultural Resources, 625 Broadway, New York City 10012.

Made in New York State: Handwoven Coverlets 1820-1860 surveys an exhibit of coverlets put together by Margaret W. M. Shaeffer of the Jefferson County Historical Society, Watertown, New York. These coverlets are currently on traveling exhibit throughout New York State.

Virginia Parslow Partridge has contributed two chapters to this catalogue. Chapter One examines the coverlets in detail, and Chapter Four gives the history of the individual weavers who created them. Rita J. Adrosko of the Smithsonian Institute describes in her essay the looms and other weaving tools used to weave the coverlets. Another chapter describes in detail the coverlets in this exhibit. Each is given a full page black and white illustration. The accompanying text provides the name of and information about the weaver, when known, date the coverlet was produced, who it was intended for, material, and the exhibit lender. An excellent bibliography is included as well as a listing of those who loaned their prized possessions to make up this exhibit.

This interesting book is for all of us who are fascinated by the history of coverlets, and for anyone who has woven or dreams of weaving one.

Irene K. Wood



DYEING FOR FIBRES AND FABRICS

Edited by Janet DeBoer

Brisbane, Australia: The Australian Forum for Textile Art, 1984. 81p. paper.

The collection of fifty-five articles in *Dyeing for Fibres and Fabrics* covers a lot of territory. In compiling this diverse selection of articles editor Janet DeBoer has chosen from both previously published and new materials from around the world. Subjects range from traditional Japanese Katzome rice resist and Nigerian indigo techniques to transfer printing and fabric marbling.

The subject of dyeing is a vast and sometimes confusing one. In this booklet the articles are short treatments which allow the reader to browse until a subject of current interest is found. It would also make interesting reading for someone not yet committed to one particular method of dyeing who might welcome exposure to a variety of techniques.

Topics include information on dye hazards (essential to a book on this subject), specific dye application recipes and other more general how-to directions. There is also a comprehensive list of over 90 dye books.

It is encouraging to see a publication that takes information from all over the world and presents it in this manner. Let's hope for more such sharing of ideas and information.

Lynn Hazelton

Lynn Hazelton, weaver and dyer, is owner of Creative Fibers in Minneapolis.

SURFACE DESIGN FOR FABRICS

Richard M. Proctor and Jennifer F. Lew

Seattle: University of Washington Press, 1984. 192pp. paper.

Surface Design for Fabrics is an excellent introductory book for those interested in the application of dyes to fabric. In the past few years there has been an incredible surge of creative energy in the surface design field. Up until now there has not been a good, basic text dealing with a wide range of contemporary dye applications. Authors Proctor and Lew have taken a vast subject and presented it in a clear and stimulating manner.

Part One of the book deals with the fundamentals of design, color, the classification of fibers, fabrics and dyestuffs. This is one of the few publications available where color mixing is discussed based on the use of dyes rather than paints. There are several very useful, well-presented charts including one on producing both opaque and transparent colors as well as a chart on how color affects scale, proportion, mood and movement. This portion of the book should be especially helpful for artists interested in designing for specific locations.

Part two consists of six chapters: "Direct Dyeing," "Liquid Resists," "Bound Resists," "Direct Printing," "Stencil Printing," and "Needlework." Each chapter is clearly illustrated with numerous photographs showing equipment, technique, and a selective presentation of both contemporary and folk and ethnic works. These are extremely helpful in giving the reader a visual frame of reference.

Surface Design for Fabrics would be a welcome addition to any textile library and should do much to explain the plethora of information that often confuses the beginning dyer.

Lynn Hazelton

A NEW ZEALAND GUIDE TO HANDMADE FELT

Marianne Ekert

Eastbourne, New Zealand: 1984. 40pp. ISBN 0-959-7707-0-4. paper. US \$5.25 plus .75 p&p (\$2.00 airmail); Textile Tools Ltd., Sunshine Bay, Eastbourne, New Zealand.

Even though feltmaking has grown in popularity in this country, there are not many books written on the subject. This new book helps to fill that void. Marianne Ekert studied feltmaking in Sweden before she moved to New Zealand. Consequently, this book emphasizes the method traditionally used in Scandinavia for creating functional felt objects.

The book is an extended version of the notes which Ms. Ekert uses in her workshops. The material is presented in a clear straightforward manner, as if the reader were actually hearing the process described by the author. The photos and diagrams are excellent. Ms. Ekert takes the reader through the steps of choosing, carding, and making the fleece into

felt boots, mittens, hats and other objects. Because of her Scandinavian approach, all of these objects are three-dimensionally formed by hand as the felt is made. They are not made of flat sheets of felt which are then sewn together. Nor are they made using a washing machine. In fact, the only equipment needed for making felt by this method is a wash board.

While the book is well laid out and simple to read, Ms. Ekert does make some assumptions of her reading audience. In one instance she describes the type of crimp and staple that good felting fleece should have, but she does not define what crimp and staple are. She assumes that her audience will have a basic knowledge of wool fiber. In another instance, she tells the reader to dissolve soap in water and then to use it in felting. She does not mention that the water should be hot. A total beginner would have great difficulty making felt with cold water. This could create a very frustrating experience for the non-felter.

So, while the book may not be for the person without knowledge of fleece or feltmaking, it is still a good technical manual for people interested in the traditional, Swedish feltmaking process.

Patricia Spark

Feltmaker and weaver Patricia Spark is Assistant Professor of Art at Oregon State University.

THE MAD WEAVE BOOK

Shereen LaPlantz.

Bayside, California: Press de LaPlantz, 1984. 76p. paper.

As a weaver, I have more than once studied an intricately woven Chinese basket and wondered how it was created. Shereen LaPlantz has taken some of the mystery out of construction methods used in making this type of basket. She clearly explains how to do this three-directional weave pattern that might otherwise drive a basketmaker crazy.

The book consists primarily of directions with nearly every page having some kind of diagram. It is interspersed throughout with delightful photographs of traditional Chinese and other Southeast Asian examples of mad weave, as well as little stories and thoughts to make the weaving less frustrating.

Ms. LaPlantz's personal style of writing

helps encourage the basketmaker while weaving. One can almost imagine being in her class as the basket grows.

With this emphasis on directions, however, there is little attention to any historical or background information on the original baskets, what their use might have been or about the people who made them.

On the whole this is an excellent book for the basketmaker who wants a challenge and would appreciate some hand-holding in the process.

Lynn Hazelton

TRADITIONS IN TRANSITION: Contemporary Basket Weaving of the Southwestern Indians

Barbara Mauldin

Santa Fe: Museum of New Mexico Press, 1984. 63p. paper.

For years it has been said that basketmaking in the Southwestern United States was a dying art and was heading quickly toward extinction. This catalog and the exhibition for which it was published prove that such is not the case.

Basketmaking is nearly 8,000 years old in the Southwest. It dates back to ancient times when baskets were used for nearly every occasion from holding food to making music. A point well made in this book is that they were—and are—a source of pride for the women who made them. Great skill is necessary to produce the forms and those who do it well have the respect of the community and beyond. Luckily today young women and girls are again asking to be taught traditional methods of basket weaving. Not all of the resulting baskets are strictly traditional however and part of this book presents the work of some contemporary weavers who are using their own designs within the framework of historical shapes.

The catalog is divided into several sections. Collecting and preparing materials and the actual construction methods are briefly covered.

The rest of the book is an overview of contemporary Southwestern basket weaving groups and individuals. Each page has a photo of both the basket and its maker. The text identifies the maker's culture along with basic size and construction information. Along with the photos are short quotes from the weavers themselves.

This brief exposure to the basketmakers makes this catalog a delight and fully illustrates that basket making is very much alive and evolving today. For those of use who are craft producers as well, it allows for a momentary connection with people from another culture on common creative ground.

Lynn Hazelton

News

UNIVERSAL STITCHES FOR WEAVING, EMBROIDERY, AND OTHER FIBER ARTS, by Nancy Arthur Hoskins, discusses five basic stitches with 195 of their variations and combinations and shows how these can be used in fabric production. A 1982 Skeins Publication, it is now distributed by University of Washington Press, P.O. Box C-50096, Seattle, WA 98145. 128 pp., 155 illus., paper \$19.95.

MOUNTMELICK WORK: IRISH WHITE EMBROIDERY, by Jane Houston-Almqvist, is a survey of white-on-white embroidery, a type of needlework practiced in Ireland for centuries. The book includes history as well as instructions. paper, 80 pp., \$8.95. Available from the Irish American Cultural Institute, 683 Osceola Ave., St. Paul, Minnesota 55105-3598.

THREADS, a new magazine of fibers and fabrics will premier with an October/November 1985 issue, on sale Sept. 1. Published by Taunton Press, the magazine will cover knitting, sewing and weaving. *Threads* has announced that Joanne Mattera, Susan Guagliumi and Robbie Fanning will serve as contributing editors.

UNIVERSAL YARN FINDER, Vol. II, by Maggie Righetti, is now available for \$9.95. It includes 1400 yarn entries by 100 companies and includes standard sizing body measurement charts and equivalent conversion tables. *For information:* MRD, P.O. Box 49707, Atlanta, GA 30359. (404) 325-5122.

Books Received

Conventional Cardweaving; How-to-Booklet, by Herbi Gray. Olympia, Washington: published by the author, 1985. Available from Herbi Gray, P.O. Box 2343, Olympia, WA 98507. \$2.50

Handbook of Timesaving Tables for Weavers, Spinners and Dyers, by Bettie G. Roth & Chris Schulz. 2nd ed., 4th printing. Published by the authors: P.O. Box 951, Elk Grove, California 95624.

Native Material Basketry; Gather, prepare and weave five native materials,

by Allen Keeney and Nancy Pierce. Published by the authors, 1983, and available from Baskets, P.O. Box 02648, Portland, Oregon 97202.

A Rug Weaver's Sourcebook, edited by Linda Ligon. Loveland, Colorado: Interweave Press, 1984. \$20.00.

A Silk Worker's Notebook, by Cheryl Kolander. Rev. Ed. Loveland, Colorado: Interweave Press, 1985. \$12.00.

Turning Wool into a Cottage Industry, by Paula Simmons. Seattle: Madrona Publishers, 1985. Available from the author, 48793 Chilliwack Lake Road, Sardis, B.C., Canada V2R 2P1. \$9.95.

Warp with a Paddle and Beam without Paper, by Lucille Landis. 2nd Printing. Published by the author: 22 Northway, Old Greenwich, Connecticut, 06870. 1980.

The Woven and Graphic Art of Anni Albers, by Nicholas Fox Weber, Mary Jane Jacob and Richard S. Field. Washington, D.C., Smithsonian Institution Press, 1985. \$17.50.

Yarn; A Resource Guide for Handweavers, with text by Celia Quinn. Loveland, Colorado: Interweave Press, 1985.

Periodicals Received

Fiberworks Quarterly. Vol. I, No. 1, 1985. Edited by Bobbi A. McRae. "Your Quarterly Information Source for Supplies/Publications/Services in the Fiber Arts." \$12.00/year. *For information:* Bobbie McRae, P.O. Box 49770, Austin, TX 78765.

From Woods and Fields. Vol. I, No. 1, 1983. Edited by Connie J. Magoffin. "From Woods and Fields is a newsletter devoted to the topic of natural dyeing for the purpose of encouraging communication among natural dyers." Bi-monthly. \$10.00/year. *For information:* Connie J. Magoffin, 3248 Colfax Ave. So., Minneapolis, MN 55408.

The Northwest Woolgatherer's Quarterly. Vol. I, No. 1, Summer 1985. "A regional publication [for] spinners, weavers, fiber artists and "fiber" growers. Published by Common Threads Publications. \$8.00/year. *For information:* Common Threads Publications, 2058 14th Ave. W., Seattle, WA 98119.

READER SURVEY

If your survey form (included with the summer issue) was blank on the inside pages, we will replace it. Just send us a postcard.

◆ CALENDAR ◆

EXHIBITS, FAIRS, FESTIVALS

ALABAMA

Birmingham: Birmingham Museum of Art: "Southern Folk Art," Oct. 1–Dec. 15, 1985.

ALASKA

Anchorage: "For the Floor: Contemporary Artists' Rugs," an exhibition organized by the American Craft Museum, will be held at the Anchorage Historical and Fine Arts Museum, Oct. 27–Dec. 10, 1985.

CALIFORNIA

Berkeley: "Fibers East/Fibers West," an exhibit featuring artists living east of the Mississippi, will be held at the Center for Textile Arts, 1940A Bonita Ave., Oct. 23–Nov. 22, 1985.

San Francisco: The ACC Craftfair will be held in San Francisco, Aug. 6–10, 1986, at Fort Mason Center.

COLORADO

Denver: Denver Art Museum: "A World of Embroidery," to Jan. 26, 1986.

DISTRICT OF COLUMBIA

Washington: "Flowers, Saints and Toads, The Textile Art of the Chiapas Maya," will be presented at the Textile Museum, Sept. 5–Nov. 30, 1985.

Washington, D.C.: The first major exhibition in North America of Armenian carpets, "Weavers, Merchants, and Kings: The Inscribed Rugs of Armenia," will be held at The Textile Museum from October 18 through January 5, 1986.

GEORGIA

Marietta: Marietta/Cobb Fine Arts Center, 156 Church St., Marietta, GA 30060, will present "Christmas and the Art of Quilting," Nov. 21–Dec. 22, 1985.

IDAHO

Boise: "For the Floor: Contemporary Artists' Rugs," an exhibition organized by the American Craft Museum, will be held at the Boise Gallery of Art, Aug. 2–Sept. 14, 1986.

ILLINOIS

Chicago: "Hmong Art: Tradition and Change," an exhibition organized by the John Michael Kohler Arts Center, Sheboygan, WI, will be held at the Chicago Cultural Center, Nov. 4–Jan. 4, 1986.

Chicago: The Chicago Historical Society, Clark Street at North Avenue, Chicago, IL 60614 will present the exhibition "Edward F. Worst: Craftsman and Educator," October 23–March 10, 1986.

INDIANA

Evansville: Evansville Museum of Arts and Science, 411 S.E. Riverside Dr., Evansville, Indiana 47713, will present an exhibition of the flatwoven carpets created by Stanley Bulbach. Mr. Bulbach will lecture and present a workshop as part of the exhibition opening.

Indianapolis: Indianapolis Museum of Art: "Selections from the 70th Indiana Artists Show," Sept. 29–Nov. 17, 1985.

IOWA

Ames: The Octagon Gallery, Fifth and Douglas, Ames, Iowa 50010, will have a "Clay & Fiber" show, December 15–January 26, 1986.

LOUISIANA

New Orleans: The 1985 Louisiana Crafts Council Holiday Crafts Market will be held at the New Orleans Botanical Garden in City Park on Saturday, November 30, 1985 and Sunday, December 1, 1985 from 10–5.

MARYLAND

Baltimore: ACC Craftfair Baltimore will be held at the Baltimore Convention Center, Feb. 26–March 2, 1986.

MASSACHUSETTS

West Springfield: ACC Craftfair West Springfield will be held at the Eastern States Exposition Center, June 16–22, 1986.

MINNESOTA

Minneapolis: International Design Center announces "Wovens/Textiles for Living," October 31–December 1, 1985. The exhibit will feature works by contemporary Danish fiber artist Vibeke Klint as well as new work by McNutt Handweavers, a studio established in County Donegal, Ireland by Scott McNutt. The exhibit focuses on four components of textile design: walls with tapestries and hangings, floors with area rugs, covers from sofas to benches and accessories with bed covers, table linens and lap rugs.

Minneapolis: Beginning October 24, 1985, the Minneapolis Institute of Art will sponsor the exhibit "Textile Properties: 85," featuring contemporary fiber art. Artists include Amy Meyers, Junco Sato Pollack and Tim Harding.

St. Paul: "Fiber Fair," the finest quality and most diverse range of unique fiber items on display and for sale in the Upper Midwest, sponsored by The Weavers' Guild of Minnesota, Nov. 14–17, 1985.

NEW MEXICO

Albuquerque: Albuquerque's Art Event, Southwest Arts and Crafts Festival, Nov. 15–17, 1985.

NEW JERSEY

East Rutherford: "Super Craftstar Show" will be held at The Meadowlands Stadium Club, Giants Stadium, Meadowlands Complex, Dec. 6–7, 1985.

NEW YORK

New York City: The Cooper-Hewitt Museum. "The Golden Eye," an exhibition focusing on India's traditional crafts expressed in modern designs, Nov. 5, 1985–Feb. 23, 1986.

New York City: Museum of the City of New York. "New York's Doll Houses," permanent.

Stony Brook: The traveling coverlet exhibition, "Made in New York State: Handwoven Coverlets, 1820–1860," organized by the Jefferson County Historical Society, is presently at The Museums at Stony Brook where it will remain until December 1, 1985.

OHIO

Dayton: "For the Floor: Contemporary Artists' Rugs," an exhibition organized by the American Craft Museum, will be held at the Dayton Art Institute, Jan 18–March 9, 1986.

Cincinnati: 16 embroideries from Turkey and several Aegean islands, selected from the permanent collection, are on view at the Cincinnati Art Museum until January 1986.

OKLAHOMA

Tulsa: The Philbrook Art Gallery. "Objects of Adornment: 5,000 Years of Jewelry from the Walters Art Gallery, Baltimore," Oct. 13–Dec. 8, 1985.

RHODE ISLAND

Bristol: The Haffenreffer Museum of Anthropology, Brown University will hold a Greek festival including an exhibition of regional textiles and photographs, Oct. 26–Dec. 30, 1985.

TENNESSEE

Memphis: Mid-South Arts and Crafts Show/Sale, Nov. 22–24, 1985, Cook Convention Center.

TEXAS

Dallas: ACC Craftfair Dallas will be held at Market Hall, Dallas Market Center, April 17–20, 1986.

VIRGINIA

Williamsburg: Abby Aldrich Rockefeller Folk Art Center, "Traditional Crafts and the American Folk Artist," May 12–Dec. 1, 1985.

WISCONSIN

Wausau: "Art to Wear: New Handmade Clothing," organized by the American Craft Museum, will be held at the Leigh Yawkey Woodson Museum, Nov. 2–Dec. 15, 1985.

BELGIUM

Tournai: The Foundation of Tapestry in collaboration with the French Cultural Centre will sponsor two exhibitions, "The Tournai Tapestry in Spain in the 15th and 16th centuries," and "Space/Textile Creation: current tapestry in Spain," Oct.-Dec., 1985.

CANADA

BRITISH COLUMBIA

Fort Langley: "Fibre Metamorphosis." From Nov. 3 through Dec. 7, 1985, the Langley Centennial Museum & National Exhibition Centre will be hosting an exhibition of recent work by the members of the Langley Weavers and Spinners Guild and by guest artists Pearl Maas and Jeannea Miles.

ONTARIO

Toronto: The Toronto Potters and the Toronto Guild of Spinners and Weavers will hold their annual Christmas show and sale, Nov. 22-23, 1985 at the Enoch Turner Schoolhouse, 106 Trinity St., Toronto.

CONFERENCES

FLORIDA

Winter Park: The Florida Tropical Weavers Guild will hold its annual state convention at the Langford Hotel, Winter Park, Florida, April 18-20, 1986. The theme is "Something Spacey." Workshops in weaving, basketry and other fiber arts are planned. Workshop leaders include Doramay Keasbey (weaving) and Shereen LaPlantz (basketry). *For information:* Donna Sullivan, 1134 Montego Road W., Jacksonville, FL 32216.

ANNOUNCEMENTS

Linsey Woolsey has changed their address. They are now located at 13 Washington Sq. West, Salem, Massachusetts 01970. Their Boston store on Newbury Street has closed but they are looking for a new location in the same area.

The Textile Museum, Washington, D.C. has received reaccreditation by the American Association of Museums (AAM). It was first accredited in 1973. The Textile Museum has also received a \$75,000 Institute of Museum Services grant, which will provide a portion of the museum's general operating funds.

Indianapolis Museum of Art Associate Conservator for Textiles **Harold F. Mailand** has been voted a fellow of the American Institute for Conservation of Historic and Artistic Works.

The Navajo Sheep Project, Utah State University, Logan, Utah, announces its annual wool sale. Navajo (Churro) sheep fleeces will be sold on a first come first served basis. *For*

information: Mary Jo Davis, Navajo Sheep Project, Utah State University, Logan, UT 84322-4815 (801) 750-2150.

The American Craft Council (ACC) announces an open call for papers to be presented at "Art/Culture/Future," a national conference sponsored by ACC in June, 1986. The theme is an exploration of the significant changes taking place in the crafts, the role of the crafts in society, and the implication of these changes for the future. The deadline for summaries to the Forum Committee is January 15, 1986. *For guidelines:* SASE to ACC Forum Program Chair, c/o V.P. for Academic Affairs, California College of Arts and Crafts, 5212 Broadway, Oakland, CA 94618.

TO ENTER

Deadline December 2, 1985 for slides and entry fee. The American Tapestry Alliance will present the first major exhibition of tapestry woven in Canada and the United States, July, 1986 as part of Convergence '86. *For information:* American Tapestry Alliance, SR 2, Box 570-D, Chiloquin, OR 97624.

Deadline December 6, 1986 for slides for the "8th Annual Vahki Exhibition," a national contemporary crafts exhibition sponsored by Galeria Mesa. *For information:* Galeria Mesa, P.O. Box 1466, Mesa, Arizona 85201-0904. (602) 834-2242.

Deadline January 31, 1986 for entry forms and fees for "By a Fine Thread," sponsored by the Ontario Handweavers and Spinners as part of Convergence '86, and open to all members of the Ontario Handweavers and Spinners including those residing outside Ontario. *For information:* Irene Neff, c/o Kitchener-Waterloo Handweavers and Spinners, 8 Bridge St., Kitchener, Ontario, Canada N2K 1J0.

Deadline February 28, 1986 for "Small Expressions '86," a juried exhibition of small scale works presented as part of Convergence '86. *For information:* Small Expressions '86, c/o Convergence '86, 346 Dundas St. West, Toronto, Ontario, Canada, M5T 1G5.

Deadline April 1, 1986 for "Personalized Fibres," to be held as part of Convergence '86. *For information:* Handspun Entries to: Carole Gay, 34 Statler Avenue, Etobicoke, Ontario, Canada M9B 1G6; Handwoven entries to: Barbara Zimmer, 97 Markland Drive, Etobicoke, Ontario, Canada M9C 1N7.

No deadline stated "Wearable Art for the Collector," juried exhibition, fashion show and sale at the Evansville, Indiana Museum of Arts and Science, April 7-May 5, 1986. *For information:* SASE to First Additions, 2920 North Commonwealth 4B, Chicago, IL 60657.

Winter 1985-86 Class Schedule

(October 1985 - January 1986)



- ... MEXICAN TAPESTRY
WEAVING AND TECHNIQUES
with author, Joanne Hall
- ... TWEEDS AND TWILLS with
Dale Fairbanks
- ... FOLK ART KNITTING with
Marcia Kolk
- ... SPINNING with
Barbara Bro
- ... BEGINNING AND
INTERMEDIATE WEAVING
with Marcia Kolk
- ... KNITTING MACHINES FOR
BEGINNERS with
Kathleen Walke
- ... KNITTING MACHINES FOR
INTERMEDIATE TO ADVANCED
with Kathleen Walke
- ... FROM RAGS TO RICHES
weaving with
Marcia Kolk
- ... ARAN STYLE SWEATERS
with Marcia Kolk
- ... COLOR, TEXTURE AND
ORNAMENT on loom with
Annette Chaudet
- ... ON DESIGNING CLOTHES
with Albertje Koopman

Call or write for a copy of
our schedule (505) 983-1168

1201 Cerrillos Road - #7
Santa Fe, New Mexico 87501

◆ STUDY & TRAVEL ◆

STUDY

ARIZONA

Mesa: The Mesa Cultural Program offers an ongoing series of classes in the fibers arts. For information: Mesa Cultural Program, P.O. Box 1466, 155 N. Center, Mesa, AZ 85201.

Mesa: Basketry workshop, Mesa Cultural Program, 155 North Center, Mesa, with guest artist Lou Orr, December 7, 1985. Pre-registration is required by December 5, 1985. For information: Sue Hakala, (602) 834-2053.

CALIFORNIA

Mendocino: The Mendocino Art Center, Textile Apprenticeship Program will now have Artists in Residence during winter and spring. For information: Lolli Jacobsen, Program Coordinator, Textiles, Mendocino Art Center Textile Apprenticeship, 45200 Little Lake St. P.O. Box 765, Mendocino, CA 95460 (707) 937-0228.

Mendocino: The Mendocino Art Center Fall Session runs from September 14 to February 9, 1986. The session will include classes in basketry, crochet and natural dyeing. For information: Mendocino Art Center, P.O. Box 765, Mendocino, CA 95460. (707) 937-5818.

CONNECTICUT

Guilford: Guilford Handcrafts, Inc. will conduct workshops in November, 1985 on basketry, silk screen, soapstone carving, clay, and tritik design. December 1985 workshops will include basketry, clay and paper. In January 1986, they will conduct workshops in weaving, dyeing, cloisonne enameling and basketry. For information: Fernn Hubbard, Guilford Handcrafts, Inc., P.O. Box 221, 411 Church St., Guilford, CT 06437 (203) 453-5947.

DISTRICT OF COLUMBIA

Washington, D.C.: "Rugs and Kilims of the Transcaucasus," a series of seminars led by Harold Keshishian, Gerald Thompson, John Wertime and Richard Wright, will be held at The Textile Museum, November 6, 13, 20 and 21, 1985.

MISSOURI

Fayette: Announcing the opening of *The Weavers' School*: In association with *The Weavers' Store*, *The Weavers' School* offers classes in complex weaves designed for students interested in expanding from four to more shafts. Send for class schedule and information to: Madelyn van der Hoogt, *The Weavers' School*, Route One, Fayette, MO 65248 or Barbara Overby, *The Weavers' Store*, 11 S. 9th, Columbia, MO 65201.

NEW HAMPSHIRE

Harrisville: Harrisville Designs Weaving Center will conduct workshops on weaving, knitting and felting, from September 26–November 23, 1985. On November 19, 1985, Kay Haeberle will give a talk entitled "The Art of Paisley Shawls." For information: *The Weaving Center*, Harrisville Designs, Harrisville, NH 03450. (603) 827-3996.

Harrisville: The Weaving Center at Harrisville Designs is offering a workshop for elementary school teachers (K–6) on the subject of incorporating fiber techniques into the curriculum. The workshop will be offered on November 19, 1985, from 10–4. For information: Leslie Voiers, Weaving Center, Harrisville Designs, Harrisville, NH 03450 (603) 827-3996

NEW JERSEY

Montclair: Associated Handweavers will sponsor a workshop on weaving by Allen Fannin on December 7, 1985 in Montclair, NJ. For information: Marge Tartas, 1204 Ringwood Ave., Haskell, NJ 07420 (201) 835-2368.

NEW YORK

New York City: The New York Guild of Handweavers will sponsor the following activities: Virginia West will lecture on "Fiber, Fabric and Fashion with Style," January 25, 1986, followed by a workshop on January 26, 1986. All programs will be presented at the Crafts Students League, YWCA of New York, 610 Lexington Ave. at East 53rd St.,

New York City. For information: Diane Sabbarese, (718) 435-5106.

NORTH CAROLINA

Brasstown: The John C. Campbell Folk School will offer classes in weaving, fabric crafts, spinning and dyeing, basketry, quilting, broom making and bobbin lace making, May 5–Nov. 23, 1985. For information: The Registrar, John C. Campbell Folk School, Route 1, Brasstown, NC 28902 (704) 837-2775.

OHIO

Oberlin: Charles Lermond offers a variety of workshops at the Loom Shed for 1985. For information: The Loom Shed, 278 S. Pleasant St., Oberlin, Ohio 44074.

PENNSYLVANIA

Lancaster County: Klara Cherepov will conduct fiber arts workshops at Historic Smithton, in Lancaster County. Classes will be offered in the fundamentals of weaving, garment and product design. For information: Klara Cherepov Workshop, Historic Smithton, 900 West Main St., Ephrata, PA 17522, (717) 738-3333.

WASHINGTON

Index: Heart's Desire, Eatonville, will sponsor two spinning workshop/retreats at the Bush House in Index, Washington. "Comprehensive Handspinning," taught by Celia Quinn will be held February 15–18, 1986 and "Beginning Spinning," taught by Rike Dunlap will be held February 7–10, 1985. For information: Heart's Desire, Jinny Hopp, 31510 44th Ave. East, Eatonville, WA 98328.

AUSTRALIA

QUEENSLAND

Brisbane: The Australian Flying Arts School announces a new Weaving Correspondence Course, written by Janet De Boer, and sponsored by the Crafts Board of the Australia Council. For information: The Coordinator, Correspondence Courses, Australian Flying Arts School, c/o Brisbane CAE (Kelvin Grove), Victoria Park Road, Kelvin Grove Q 4059.

TRAVEL

Morocco: Moroccan Craft Tour '85, led by Prof. Tom Wilson and Sherry Clark, Nov. 16–30, 1985. For information: Prof. Wilson, CRAFT WORLD TOURS, 6776 Warboys Road, Byron, NY 14422 (716) 548-2667.

Nepal and northeast India: A Tour of Artisans and Himalayan Cultures, Feb. 22, 1986–March 16, 1986. For information: Global Views, R.R. 3, Spring Green, WI 53588, (608) 583-5311.

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Reviews

Beka Looms

Beka Looms has introduced a long-awaited addition to its basic SG frame looms: a new, sturdy floor stand for use with their 20 and 24 inch model frame looms. I found the new stand to be sturdy and easy-to-assemble. It supports the loom at a comfortable height for weaving, and is adjustable.

Notched aluminum brackets slip onto the ends of the threaded rod that runs through each loom beam when the loom's tension knobs are loosened. The knobs are then tightened over the brackets. This arrangement holds the loom firmly. Several possibilities for adjustment of height and angle of the loom are provided by a series of three holes for positioning the brackets.

No tools are needed to assemble the stand. It is held together by bolts and wing nuts. The assembly instructions recommend that all bolts be inserted from the inside of the stand to keep the inside surfaces smooth and avoid snagging clothing. However, I soon reversed the top front set of nuts and bolts to keep the shuttle yarn from catching around the wing nuts with each pick.

The front arms of the stand pivot to set the loom at the desired weaving angle, and the loom and stand can be stored compactly by detaching the loom from the back uprights and letting the loom rest upside-down against them.

I found that the most stable and comfortable weaving position was with the loom close to my body and my feet on the stand's cross bar to stabilize it further. In this position, I could get much better leverage for beating with the rigid heddle than when using the loom as a lap loom braced against a table.

The floor stand sells for \$55.00, and is definitely a good investment for rigid heddle weavers who have difficulty finding a place to use their loom, or who wish for a more comfortable and effective way to use it.

Karen Searle

Dyakit

Can an ordinary weaver dip painlessly into the dyer's art to experience this dimension of fiber art? I had a chance to answer this question when I offered myself as "test pilot" for Dyakit, a system for the controlled use of reactive dyes on natural fibers," produced by Betsy Blumenthal and Kathryn Kreider. Let me further explain my interest in testing this product.

I weave small-scale pieces and one of my favorite techniques involves the use of small, colorful lengths of yarn as supplementary wefts. I had often thought of how much I would enjoy being able to use subtle gradations



of yarn color in my work. Yet to rationalize buying skeins of yarn when all I might need was a few feet was beyond me.

There was another consideration. I had the conviction that there was no reason why I should not be able to use synthetic dyes to produce the same subdued rich colors we associate with natural dyes.

The problem I set for myself then, was to see if I could produce small quantities of yarns dyed in a variety of colors which mimicked natural dyes. I opened the compact Dyakit box, donned the plastic gloves that were inside, and set out for an afternoon of experimentation. I was not disappointed. Five hours after I had set three small enamel pans to work on my stove, I had 27 small skeins of yarns dyed in an impressive range of colors. Furthermore, because of the precision by which I was instructed, I knew I could reproduce any or all of the colors from my records.

During my afternoon's work/play, I found the instructions remarkably clear and easy to follow, anticipating the problems before they occurred. Procedures described took into account the dangers involved in using such dyestuffs and indicated proper precautions. The equipment provided, such as calibrated syringes, was actually fun to use.

The only criticism I could come up with was that I could not find information on how the dyes in this kit fit into a larger classification of synthetic dyes. Also a bibliography for those of us who are always curious to know more would have been helpful.

But for someone like me who wants an introduction to home dyeing on a small scale with synthetic dyes, this kit is an excellent vehicle.

by Suzanne Baizerman

Handweaving Patterns Program

Commodore 64, Video Monitor, Disk Drive, Epson Rx-80 printer

Handweaving Patterns is a program written for the Commodore 64 designed to produce a drawdown of a weaving draft using up to ten harnesses. It produces a full screen display of the drawdown which can then be printed for future reference. The program is menu-controlled with questions which guide the user through the process of entering number of harnesses, treadles and ties per treadles, and then the entering of information on threading, tie-up and treadling. Once this information has been entered, the main menu reappears and you can choose to display the drawdown, get a print-out of the draft information or print the drawdown. You can also choose to display or print a reverse pattern and print that drawdown. All of these steps are straightforward and easy to do and the printed copy is a useful, timesaving record of drafts and designs.

Two features, in addition to the ability to easily enter the draft information and to make fast drawdowns, which make a drawdown program useful are ease of editing and the possibility of saving all or part of the pattern to a disk for future reference.

There is one place in this program, after you have entered the number of harnesses and treadles, in which you are asked if the information is correct. At other points in the data-entering process it is not possible to change your mind without starting over again. To enter a new tie-up for the same threading, you must re-enter the threading. The menu lists a "correct/change format" option which has not as yet been programmed in. The "save pattern/format" option, presumably to another disk, also listed in the menu has not been programmed either and choosing those options from the menu merely returns you to the menu.

For the Commodore user, this program could be a useful tool for creating and printing drawdowns of weaving drafts. For the Commodore user interested in doing some programming, the program would offer many possibilities for experimenting. It was developed by Martha and Shields Baker and can be ordered from the Bakers, 6000 Oakwood Lane West, Greendale, WI, 53129, at a cost of \$35.00.

Mary Skay

Handweavers Input Program

Commodore 64, Video Monitor, Disk Drive

This program, developed by Herbi Gray for the Commodore 64 computer, permits the user to get a screen image of a drawdown of a threading which is either entered from the

◆ PRODUCTS ◆

keyboard or chosen from the menu of sixteen common threadings which have been pre-programmed. The program takes advantage of the Commodore's color palette, allowing you to choose one color for the warp threads and other colors for the individual weft threads.

The pre-programmed threadings are quite extensive, including 4-, 6- and 8-harness twill, rosepath, huck, herringbone and crackle weave. When you choose one of these threadings, the program then asks you to tie-up up to 16 pattern wefts. You may tie each weft to up to four harnesses, with the option of a different color for each of the 16 weft threads. You enter your choices, answering clear, friendly questions from the program. A drawdown is automatically generated on the screen. At this point, you can change the colors or the tie-up and see a new drawdown. Or you may keep your tie-up and choose one of the other threading options. The new drawdown then appears. If, in answer to the question "What would you like to do now?" you choose to "See your input print-out" the information that you entered about warp and weft color, threads per repeat and tie-up is printed on the screen. Ms. Gray provides you with a separate Pattern Input Sheet which she suggests you use to record your information for future reference. The program does not have a hard copy printer option and you cannot save your data to a disk.

Being able to use pre-programmed threadings to generate drawdowns as well as easy tie-up changes make this part of the program very useful to visualize design opportunities on particular threadings.

If you choose to enter your own threading rather than one of the pre-programmed options, the program becomes less efficient. The system for entering the threading is as follows: for each harness—you may choose as many as eight—you must enter 40 heddles, either threaded or unthreaded. Pressing the space bar indicates a threaded heddle; pressing the right cursor indicates an unthreaded heddle. The 40 threads are not labelled and you must count to make sure that you have designated all 40 threads. After working with the threading, you do become aware of where on the screen the fortieth thread lies and that eliminates some of the counting. You may edit an individual harness once you have completed your threading, which is a valuable feature. Once you have finished this rather laborious entering of the threading, you then enter the tie-up, the warp and weft colors and the treadling as in the pre-programmed options. The same versatility of choosing a different tie-up for your threading is possible. If you choose to see your input printout, a picture showing the threaded and unthreaded heddles on each harness appears on the screen. You would have to record this on graph paper to save

it for later use.

This program is well-suited to designing block patterns using the same system of entering threaded or unthreaded heddles but thinking of them as blocks instead of as threads.

The whole program is very clearly explained in the well-written and complete instruction booklet. Ms. Gray has outlined the steps to follow, the appropriate responses as well as the effects of incorrect responses, and has included some samples to experiment with. The program is available from Herbi Gray, PO Box 2343, Olympia, WA 98507 at a cost of \$15.00.

Mary Skoy

Mary Skoy is a Minneapolis weaving teacher and computer enthusiast.

Weaving Horizons

New Jersey production weavers Dorothy Petersen and Beeb Jackson have come up with a new approach to stimulating the creativity and confidence of the novice weaver.

The two series of handwoven fabric swatches that they have produced so far are intended as a source of inspiration for the hobby weaver who is looking for ideas, but has difficulty visualizing yarn-into-cloth in the yarn shop. The swatch portfolio provides ideas for combining colors and textures, and gives suggested uses for the fabrics. Four-harness weaves are emphasized. Drafts are given, along with information on warp, weft, sett, and notes on the weaving or handling of materials where appropriate. Two swatches are mounted on heavy card stock, attractively printed with drafts and other information. Ten cards are included in a portfolio.

We examined the Fall and Winter swatch series which has mostly wool fabrics in a variety of weights and textures, and a few cottons and blends. Most of the suggested uses in this series are for clothing: coats, capes, dresses, skirts, shirts.

It might have been more helpful to weavers trying to find equivalent yarns to include samples of each yarn used in the swatch as well, or to provide more complete information on the yarns used. This was done with the cotton samples in the packet, and made those fabrics seem more accessible.

So far, Weaving Horizons has produced two swatch folios: Spring & Summer and Fall & Winter. A third series is in the planning stages. The swatches are priced at \$20 for a set of 20 swatches, ppd; or the two sets for \$35 ppd, from Weaving Horizons, P.O. Box 265, Chester, NJ 07930.

Karen Searle

News

The Woolery

The Woolery, Genoa, NY has recently introduced a manual pendulum fiber picker. The Woolery Picker is 32" high and weighs about 100 lbs. It is designed to handle all types of staple lengths and fibers, including matted fleece. It can also be used for blending fibers. For information: The Woolery, R.D. #1, Genoa, NY 13071. (315) 497-1542.



Schoolhouse Yarns

Schoolhouse Yarns is distributing a new nubby cotton yarn called "Nypylanka," produced by Helmi Vuorelma OY of Finland. This yarn is available for knitters and weavers. Sample cards are \$1.00. For information: In the Eastern U.S., Eaton Yarns, c/o Craft Skellar, Marymount College, Tarrytown, NY 10591; In the Western U.S., Schoolhouse Yarns, 25495 S.E. Hoffmeister Rd., Boring, OR 97009.

Elite Speciality Yarns

Elite Speciality Yarns announces La Swa Silk/Wool Yarn in 8 colors. Spun of Merino wool and cultivated silk, the line includes a 3 ply sportweight yarn and a coordinating boucle yarn. For information: Elite Speciality Yarns, Inc., 750 Suffolk St., Lowell, MA 01854.

Cotton Clouds

Cotton Clouds's newly expanded "Cotton for All Seasons" catalog is now available and includes yarns, books, patterns and tools. The catalogue is \$3.00 and you will be included on their mailing list. For information: Cotton Clouds, Route 2, Desert Hills #16, Safford, Arizona 85546. (602) 428-7000.

Northfield Loom

Northfield Loom has announced a design modification of the "Marta" rigid heddle loom which allows for the addition of an auxiliary warp beam. The modification can be made on all existing "Marta" looms and can be ordered from the factory or through Northfield Loom dealers. For information: Northfield Loom, 908 Second Ave. S., Sioux Falls, South Dakota 57104. (605) 334-7644.

◆ THE WEAVER'S MARKET—CLASSIFIEDS ◆

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PUBLICATIONS

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SHUTTLE CRAFT GUILD MONOGRAPHS with their roots in writings of Harriet Tidball and Mary Atwater are available. Other writers include Virginia Harvey, Margaret Windeknecht, Sylvia Tacker and others. 39 titles in all! Inquire at your local weaving shop or send SASE to HTH Publishers, PO Box 550W, Coupeville, WA 98239.

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Deadline for the winter issue is December 1. Pre-payment must accompany ads. Send your ad copy to: The Weaver's Market Classified, c/o The Weaver's Journal, P.O. Box 14238, St. Paul, MN 55114.

COMPUCRAFTS introduces "THE WEAVER" © 1983. An extremely powerful computer weaving drawdown program for the APPLE II PLUS or IIe. Up to 8 harnesses, 10 treadles, 280 warps, 160 wefts. Features color, magnification, rising and sinking sheds, printouts of pattern and draft in traditional or counted formats. Interactive and automatic treadling. Create a data-base of designs and drafts for later review and/or modification. Send \$49.95 for disk plus manual or for complete information contact COMPUCRAFTS, RFD 2 Box 216, Lincoln, MA 01773.



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'86 CRAFT WORLD TOURS. Explore crafts and folk arts of China—May; Yugoslavia/Hungary—June; Yugoslavia/Turkey—July; U.S.S.R.—August;


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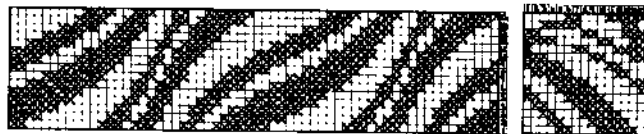
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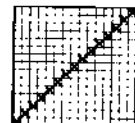
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From "Symbolic or Sacred" by Diana Lockwood. Vol. 9, No. 3, p. 47.



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Three generations of New Mexico weavers gather to discuss technique: (from l-r) Lucille Ortiz, Grandmother Elvira Romero (holding a blanket she wove), Sylvia Ortiz, Mother Mary Ortiz.



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