

The Weaver's Journal

\$4.00 Volume VI, Number 4, Issue 24 Spring 1982

In this issue:

- Weaving in Quebec
- Rugs

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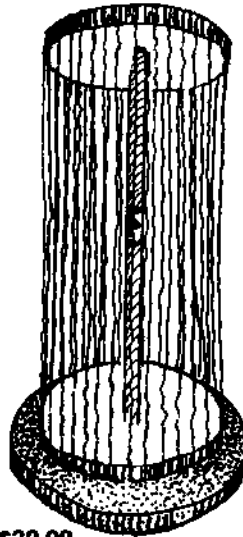
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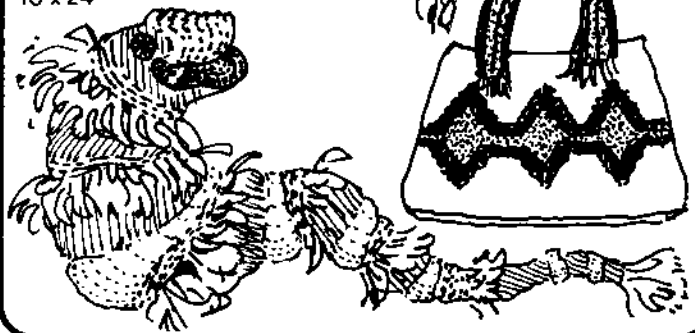
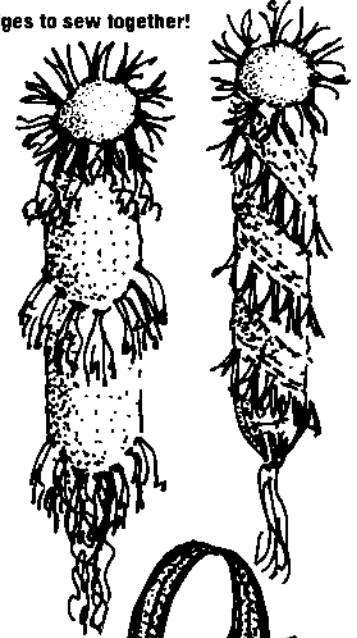
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LETTER FROM THE EDITOR

As I write this letter it is still January and not yet too late to make New Year's resolutions for 1982 and to reminisce about the events of 1981.

The plans for 1982 will be in direct response to suggestions that we are gleaming from the answers to the questionnaire which was included in the Winter 81-82 issue of *The Weaver's Journal*. We will not take anything away from our present format but will add more product news, especially about yarns, and also add some projects for small or rigid-heddle looms. As for 1981, it will be remembered as the year that we started publishing in color. The exhilaration of seeing color in *The Weaver's Journal* for the first time reminded me of the day, a few years ago, when the old black and white TV set was finally replaced by a color one. The world seen in color does acquire a new dimension somehow, and we are happy that we can offer this excitement.

The other aspect of 1981 which stands out as particularly rewarding is the many personal encounters with weavers, retailers, suppliers and manufacturers. When I travel to give lectures, workshops or just for business, I always feel that I come back so much richer in ideas. Whether it is because I am an attentive listener, a curious observer, or just plainly because I am good at picking other peoples brains, I always acquire such a wealth of information that I feel compelled to write about it.

The essay on Quebec in this issue is an outpouring of the excitement about one such trip. I felt particularly good about that corner of Canada which is so rich in tradition and where weaving is so much a part of daily living. I was there to give workshops but I feel that I learned so much more than I taught. The article on Quebec is written as a token of gratitude to, and admiration for, the weavers of that area.

Clotilde

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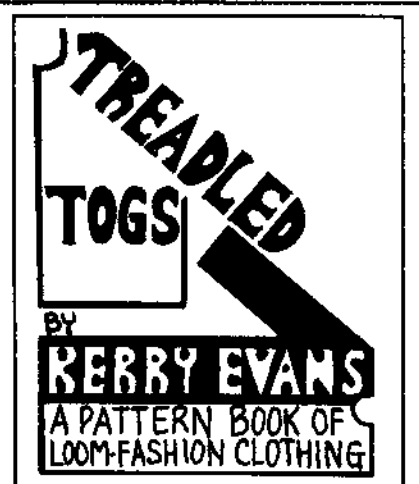
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The Weaver's Journal

Quarterly Journal for Textile Craftspeople

Volume VI, Number 4, Issue 24 Spring 1982 ISSN#0160-3817

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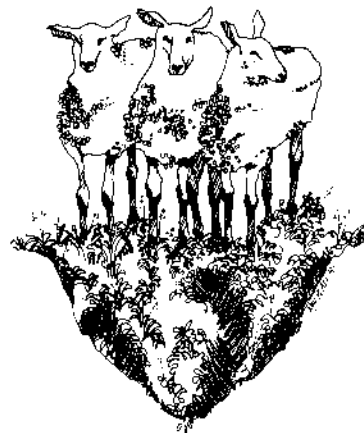
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Cover photo: Catalogue rug from Quebec

Editor and Publisher: Clotilde Barrett
Associate Editor: Mary Derr
Advertising: Margaret Martin
Circulation: Maxine Wendler
Photography: Earl Barrett & Jan Carter
Production: Ellen Champion
Staff Artist: Kay Read
Typeset by WESType Publishing Services, Inc.
Printed by Mountain West Printing and Publishing, Ltd.
Color Separation by Spectrum, Inc.



The Weaver's Journal is published on the first of each January, April, July and October by the Colorado Fiber Center, Inc., P.O. Box 2049, Boulder, Colorado 80306. Telephone (303) 449-1170, 411-2088. Subscription rates are \$15.00 U.S. Currency for 1 year (4 issues) or \$29.00 U.S. Currency for 2 years (8 issues). Colorado residents add 2% sales tax. Outside U.S.A., 1 year \$18.00 U.S. Currency, 2 years \$31.00 U.S. Currency. Copyright Colorado Fiber Center, Inc., 1982. Second-class postage paid at Boulder, Colorado and additional mailing offices. The Weaver's Journal USPS 384-210. The editorial committee takes no responsibility for the goods advertised in this journal. POSTMASTER: Send address change form 3529 to The Weaver's Journal, P.O. Box 2049, Boulder, CO 80306.

MAIL BAG

"Enclosed is my renewal. Can't seem to remember sending it in and can't find that renewal paper. Hope I won't miss the Jan. issue.

The Weaver's Journal is my bible, as I'm new in weaving. A person couldn't tell by my house. I have 15 looms now. Am also teaching beginners. Have a lot to learn myself but just couldn't see others having to wait until I know it all, which would be never. We are so isolated in this end of the state, so we have to look out for ourselves. Weaving is my Life. Thank you for the magazine. It's the best!"

Caroline K. Hegel
Forsythe, MT

"The article on P. Collingwood's shaft switching in the last two issues has whetted my appetite to try it. It certainly has possibilities for Wall Hangings. . ."

Margaret Carter
Charlestown, NH

"I think I would be remiss somehow if I didn't comment on the current (Fall) issue of *The Weaver's Journal* for I find it most rewarding. It is appropriate, I think, that you should have given such prominence to Martha Stanley's article. She has offered a most fruitful suggestion—one that I have found helpful. But of course the other articles are also excellent."

A. Gilbert Wright
Silver Spring, MD

"I should like to comment on your article in issue No. 20 about "Dukagång". It can also be woven with two picks of ground weft between each inlay. The inlay yarn will then have to be double or thicker than the ground weft to cover the bottom. You can also weave it on a weft faced bottom. Do you know that the name "Dukagång" comes from the ancient words "doka" which means stripe and "gang" which means shed, accordingly striped shed. I could also tell you that "Rosen-gang" (rosepath) comes from the ancient words "rosir" which means

gaudy and "gang"—shed, accordingly gaudily coloured shed. No. 3 in the same article we call "Ryssväv" in Sweden. You can also weave it with one pick of ground weft between each inlay.

In issue 21 I read about a weaving competition of articles. It must have been announced in issue 19 which I have not received. I wonder if there will be other competitions in the future."

Lillemore Lindbom
Bromma, Sweden

Editor: We expect to announce a new contest in June. Watch for it!

"This I have been thinking about. Shaft switching—could long eyed heddles be used always assuming an 8-shaft loom and a four end threading draft? Haven't thought all through this yet but somehow think it might work."

Emily Savidge
Columbia, CA

Editor: We'd like to hear your comments on this.

"In the Summer 1980 issue of *The Weaver's Journal* the article "Shaft Switch Techniques" on pg. 7 there is a paragraph as follows: 'The device for shaft switching can be as simple as a tiny safety pin or as complex as computer controlled gates.'

Please advice where I can obtain further informaton on "computer controlled gates."

Murray Mayes
Fleischmann, N.Y.

Editor: We don't know anyone who has a working system of computer controlled shaft-switching—yet. It would involve two steps,—a platform like Peter Collingwood's and a computer that can give an electronic signal to a mechanical device to move the keys. Our problem is to find a way to make an electronic signal activate a mechanical device.

Do any of your computer buffs have an idea how this can be done? We'd like to hear from you. Write to Clotilde Barrett, The Weaver's Journal, Box 2049, Boulder, CO 80306.

*Gold River 616
Character
February 10, 1982*

Dear Weavers Journal,

Thank goodness for Mr. Clement! Until your article on computer simulations the weaving department and the computer department occupied opposite ends of my house with no common ground. A computer magazine arrived containing a five page program for simulations but it was too long and of insufficient interest to the computer department for anything to be done and too complicated for the weaving department to consider. All for such programs already on disk have elicited interest from both departments but alas no action. When my Weavers Journal arrived I was excited to see a very small weaving program (it couldn't possibly work, I thought it was only a few lines since the others had been endless). I was able to persuade the computer department to put it in immediately and while I was able to get printouts of my weaving patterns in seconds! A very slick little program!

*Sincerely
Carol Z. Priddy*

PS He ran the program on a TRS-80 model 1 and centronics printer

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For more information regarding these events, write:

The Mannings
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"We moved this summer, but I have failed to receive my Fall edition at the new address. Change of address info was previously sent, perhaps overlooked. You are getting better with every volume and I miss you."

Carol J. Bergson
Birmingham, MI

Editor: These things happen. We hope you are receiving your magazine regularly now, Carol.

"Just a line to commend you for the very clear exposition of computer drawdowns in general and for the Sinclair & Apple in particular, in your Winter issue.

I recently acquired the Sinclair 8K ROM which plugs into the ZX80 in place of its original 4K ROM and makes the ZX80 essentially the same as the latest Sinclair, the ZX81. In addition to an expanded (and more standard) Basic, the 8K ROM permits the plotting of "pixels", a black square which is the size of the regular characters. This is of value to drawdown programs

as it permits a video screen display of 64 pixels across the 44 pixels vertically. With the 8K ROM and 1K RAM I can accommodate 56 harness lifts and 36 threads. The harness lifts and threads can be interchanged to some degree. For example 36 harness lifts and 44 threads is OK.

I also acquired the Sinclair 16K plug in RAM. With that, this same pixel drawdown program will handle 64 threads and 80 harness lifts, just about filling the screen.

I'm enclosing this program for pixel plotting with the thought that you may wish to add it to your "computer file" or possibly to answer any correspondence you might receive from Sinclair users."

Richard Clement
Deming, NM

"How do you ever manage to get so much into *The Weaver's Journal*? It boggles my mind."

Genevah Sharples
Torrance, CA

"My fall issue arrived today. Many of your articles brought back fond memories of techniques, etc. that I've studied or done in my years of weaving. I'm a bit surprised that no one could or did give an assist to the question implied in the ... article by Edna M. Kniskern. (Ed: Lacy Triangular shawl)

During the 50's and 60's Kay Garrett, an integral part of Yarn Depot in S.F. came up with the idea for this triangular shawl. She taught it in classes at the Yarn Depot, exhibited it at several N.C.H.C. shows around the Bay area; Guild workshops and a printed sheet.

Most of the ones I did were done with mohair, fine wool, fine chiffon ribbon, boucle and in an experiment on one, some fine size swiss straw. It worked beautifully ... I'm hoping this will spark other answers to the challenge of this elegant stole."

Jacquelyn Rust
Eureka, CA

"It seems that every issue I get there is something in there that I needed help with right then and along came *The Weaver's Journal*.

Example Fall 81 issue—here I was just warping up the loom to make some shoulder bags in 4-shaft Krokbragd with the K-type pattern on one side and little sheep and people, trees, etc. on the other side. I wasn't sure how I would finish it to make a good strong bag. The answer was right there in the article on "The Tagari." It works. I made some beautiful bags—I just love them and they will wear."

Mavis Hayward
Chemainus, B.C. Canada

"I enjoy *The Weaver Journal* very much, it seems to cover so many 'ways' of weaving. I have lent my books to friends and now they say they are getting it themselves as they enjoyed reading them."

Isobel Cooper
Owaka, South Otago
New Zealand

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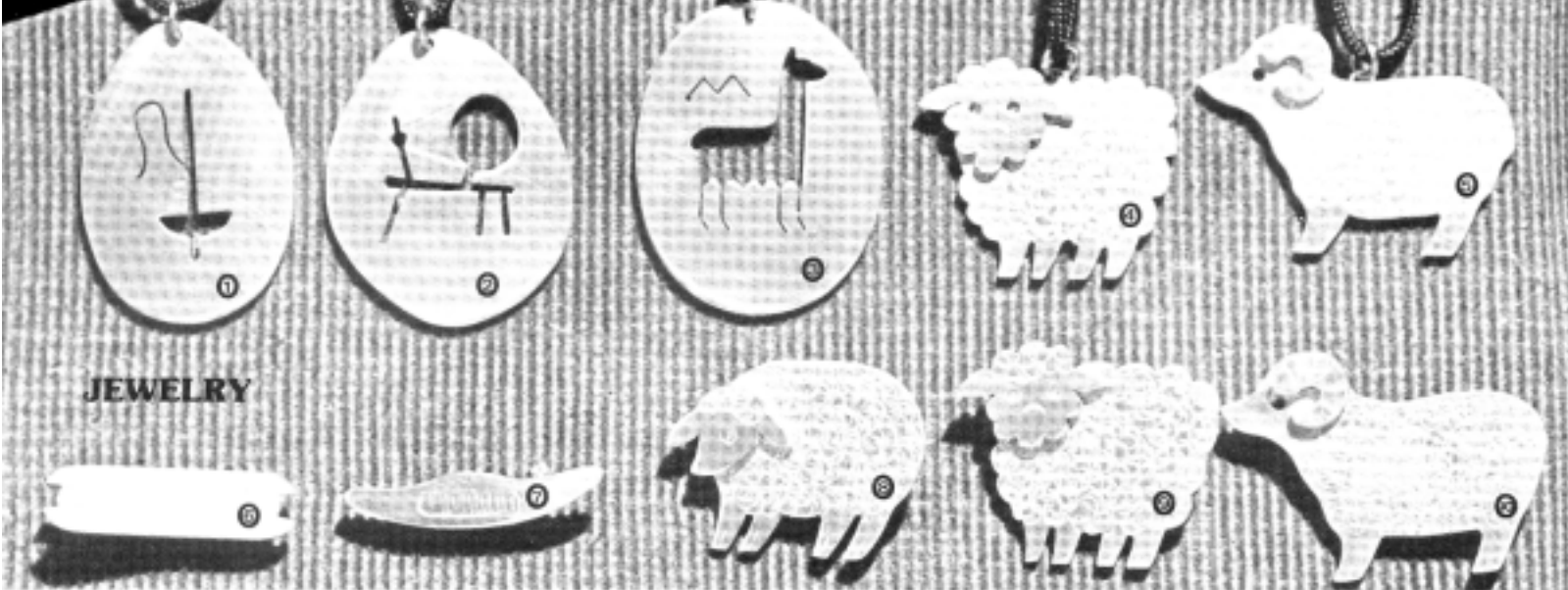
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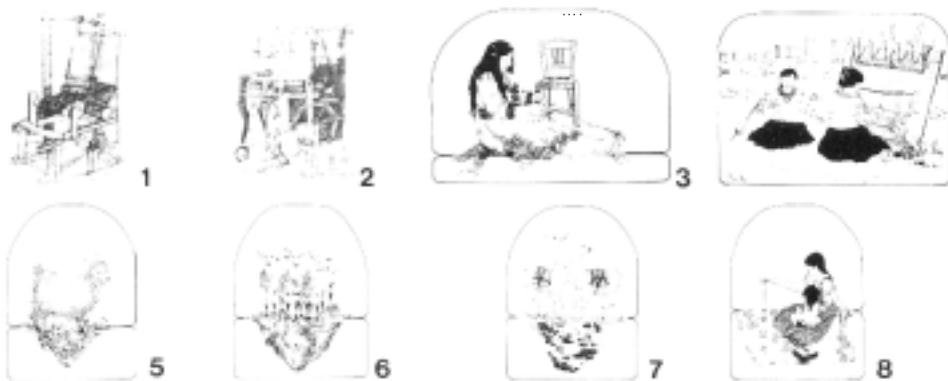


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- 2. Japanese spinner. This charming pen and ink drawing with colored wash is the work of Karmen Effenberger. In both of these notecards, Effenberger has captured an Oriental quality that is charming.

3-8. Fiber related cards by Kay Read. These black and white drawings enhanced with color are delightfully appealing for anyone to use, but particularly weavers and spinners.

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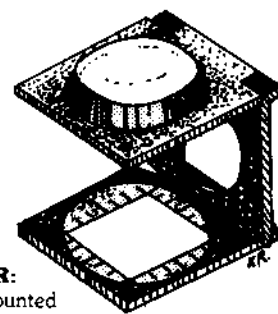


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*** * * good ideas from our readers**

SOMETHING OLD YET NEW

For many years I have enjoyed making mohair afghans on my 45" (14 cm) 4-shaft Leclerc loom. Recently, due to health problems and my age (I am ninety years old) I have been relegated to a little 2-shaft 16" (41 cm) loom that I had not used for years.

There is quite a difference in weaving on the two looms and somehow the edges of the mats I was making on the little 2-shafter were very disgraceful. I couldn't give them as gifts as I do with most of my weaving and was about to throw the whole thing out. Being a frugal soul I hated to see all that thread go to waste. Suddenly a new thought came to mind.

So this is what I did. About an inch from the disgraceful edges I machine stitched up and down the warp several times to hold the threads. I know machine stitching is frowned upon for good weaving but this didn't show. I began along side the stitching and pulled out the warp threads all the way from there to the edge, leaving a looped-fringe selvage. The



heavy acrylic thread used for the weft made the fringe nice and compact. It may be a little uneven but gives a homespun appearance. The warp threads at the short ends of the mat were knotted and trimmed to the length of the

looped fringe, making it uniform all around. All together it made a very pretty mat and I will be happy if this information can help others who have the same problem.

Ruth M. Kinne



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WEAVING IN QUEBEC

by Clotilde Barrett

Double width counterbalanced loom at the Charlesbourg "cercle de fermières".

FOREWORD

Most of the information on Quebec weaving was gathered during August 1981, when I gave a workshop at "Maison Routhier" which operates under the direction of Louise Landry and another at "Centre de formation et de recherches en textiles" and is under the direction of Lulu Turgeon. I want to thank my students and colleagues for all their help and information which they so wholeheartedly shared with me. I felt so welcomed to the Quebecois way of life that I truly learned to share their commitment to preserve the Quebec textile traditions. My special thanks go to Antoinette and Yves Tessier. Antoinette provided me with the technical details of many traditional weaving projects as well as with information on her own highly fashionable clothing designs. Her husband Yves provided most of the photography for this essay on Quebec.

My special thanks also to Germaine Galerneau who provided many of the original photographic documents from which Yves Tessier could work.

INTRODUCTION

In Quebec, the tradition of doing textile crafts at home has always been strong and important to the well-being and happiness of the family. Looms have been used in the homes, without interruption, since before the industrial evolution. Their continuous use is especially noted along the lower St. Lawrence river, in areas such as Charlevoix, Côte de Beaupré, Ile d'Orléans.

The French settlers were adept at using local plants to dye their linen and wools in rich and varied colors. The art was passed from one generation to the other till the recipes were finally written down in 1933 by Oscar

Bériaud in a book "*La Teinture Domestique*". The interest in the tradition and in new developments of vegetal dyeing is kept alive today and many more recipes are being recorded.

While home spinning and loom weaving used to be a necessity for survival, it is still thought of today by many as a most useful leisure-time activity. Many weavers in Quebec spin wool and weave practical furnishings for their homes and luxurious comfortable clothing they can wear. Those items also have a good market value for the weaver interested in a professional career. Emphasis is on the quality of the material and on impeccable craftsmanship. And while there are plenty of innovative and creative weavers and other textile artists in the province, the Quebec weaving tradition is a strong factor influencing the patterns and weave structures used by the majority of weavers.

Two and four shaft counterbalanced looms are the most popular but there is a growing interest today in experimental work that is more easily done on multiple-shaft jack looms. Things are changing.

Credit for keeping the tradition of weaving alive in Quebec must go to the religious communities and to the "cercles de fermières" which are home economics clubs for women, sponsored by the government of the province of Quebec. Both organizations advocate respect for tradition and a life in harmony with the surroundings. Religious orders long ago emphasized the importance of home economics in their schools and universities. This led the "Ministère d'Agriculture de Québec" to establish in 1928 the School of Domestic Arts of Quebec under the direction of Oscar Bériau. From then on, household skills became a vital part of everyone's education: textile arts for women, woodwork and others for men. The government of Quebec also established workshops where traditional skills could be learned and practiced. Among the greatest teachers at these workshops were Germaine Galerneau whose pile

woven bathroom accessories are described on page 15 and Bibiane April-Proulx, an expert on warp rep weaves. These workshops have developed in home economics clubs called "cercles de fermières". Over 70,000 women use the clubs' facilities to learn about crafts and to make functional projects that they can wear or use around the home. They have made a commitment to preserve craft traditions on which they build to express their own sensitivity to contemporary living. Pride in their work is evidenced by their active participation in shows and competitions.

Besides the government subsidized workshops there are many private studios in Quebec where techniques are researched and developed. Their designs are mostly conservative and of a simple elegance which emphasizes the beauty of the fibers.

Crafts are blooming in Quebec and the government encourages the efforts of these home industries by providing technical services to those who wish to become professional craftspeople.

Textile arts in Quebec are by no means limited to floor loom weaving. Com-

missions for wallhangings are often given to tapestry weavers whose designs are sometimes breathtakingly avant-garde.

On the traditional side one finds a great interest in the finger-woven belts, done using a braiding technique whose origins are still subject to debate. Early examples of these "ceintures fléchées" were woven in the area of Charlevoix and Assomption from which the English term "assomption belts" is derived. Today Quebec has an active association of "arrowed belt" makers and the technique is put to many creative uses such as wallhangings.

Many of the most popular textile crafts in Quebec are done with recycled cloth. For coverlets they use the techniques of quilting, patchwork and applique. For rugs they hook ragstrips on a backing with a nail or crochet or make long braids which are sewn together. Another popular technique is to sew layers of tongue shaped cloth pockets onto a backing.

However, the most popular of the recycling techniques is the loom woven "Catalogne".



*Catalogne bedspread
woven by Marie
Hovington*



Catalogne tablemats woven with knit ragstrips by Marie Hovington

TRADITIONAL QUEBECOIS WEAVING

CATALOGNE

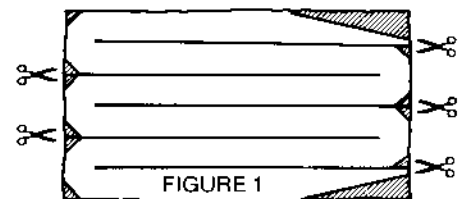
Catalogne is an utilitarian fabric which is woven with rag strips of recycled material. Catalogne was first used for bedspreads; later on it was also a popular floorcovering. The technique is as old as Quebec itself and survived the industrial revolution because home weaving was kept alive in areas such as Charlevoix on the banks of the St. Lawrence river. Today, catalogne is used for placemats, floorcovering, coverlets, clothing, draperies and lampshades.

The weave structure is plain weave woven very tightly. The patterning is determined by the color of the warp and weft. Banding and "hit and miss" are both popular styles. The warp is a fine cotton (8/2) or an equivalent synthetic and is often sett as close as 24 epi. The wefts are cotton or cotton blend ragstrips. Today catalogne weavers also purchase cotton and synthetic knit millends already precut. Catalogne is not a heavy or coarse fabric; even the floorcoverings are rather thin. The warp and the weft are prepared with great care and the weaver takes pride in making the finest catalogne without bumps and with neat even selvages.

How to prepare "guenille maison" or recycled ragstrips.

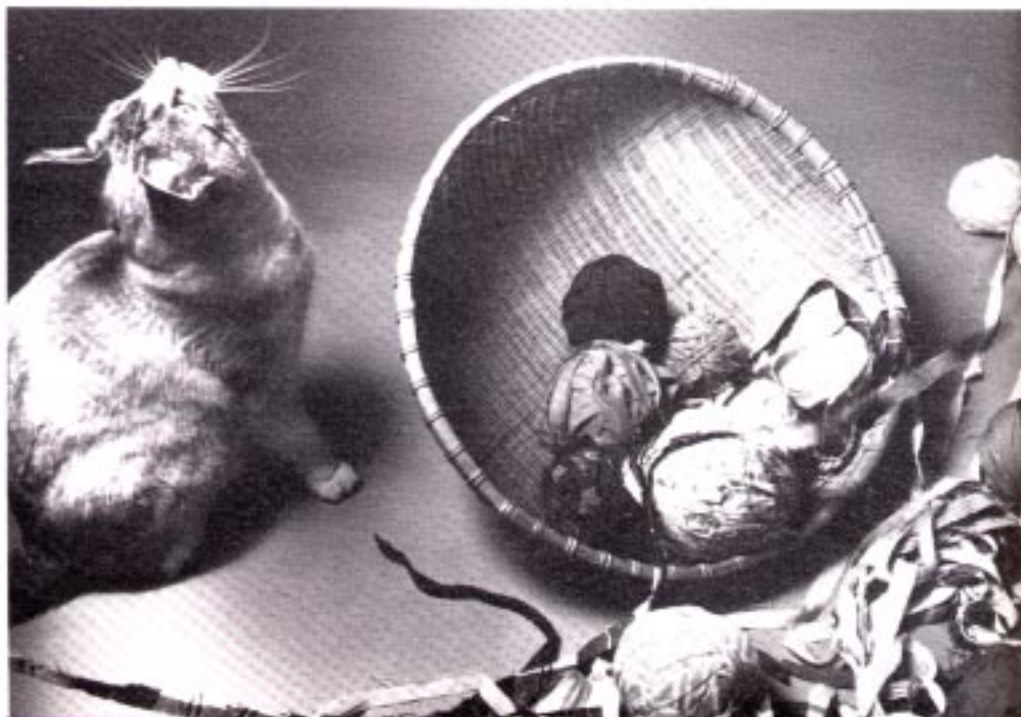
All cotton fabric that has outlived its intended use is saved for catalogne. After removing trim, seams, and pockets, the cloth is cut into a long continuous strip about $\frac{1}{2}$ " to $\frac{3}{8}$ " (12.7 to 20 mm) wide depending on the weight of the fabric. The cutting pattern is shown in Fig. 1. The corners are trimmed so that the thickness is even all through. The beginning and end of the strips are tapered because the strips are overlapped inside the shed. Amazingly small scraps of fabric such as a

shirt pocket are turned into "guenille maison" in this manner.



The "guenille" is wound tightly into neat round balls.

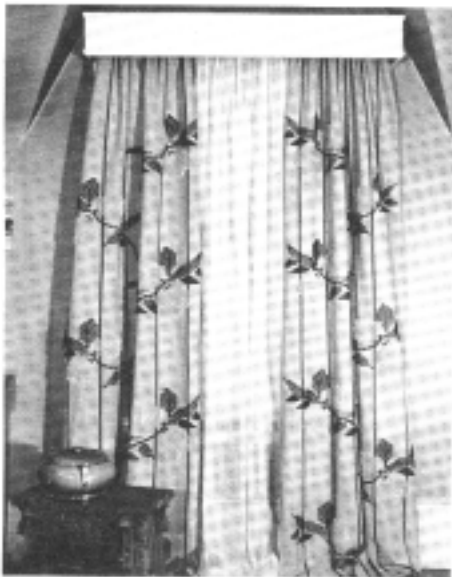
For most weavers the precut knit mill-end strips ("lisiere") are too wide and they are divided lengthwise into two narrower strips.



POINT BOUTONNE

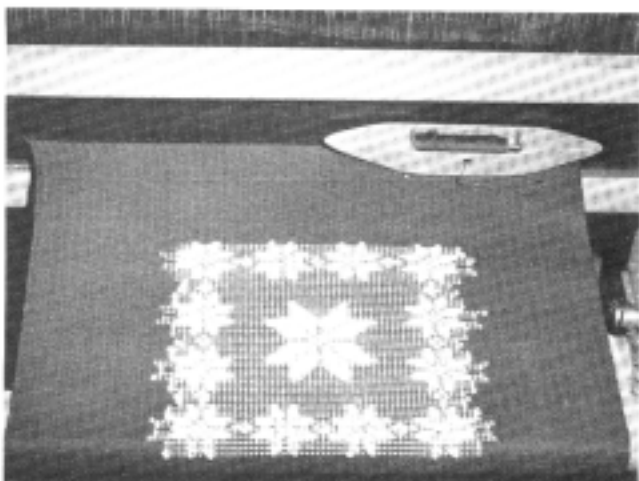
"Point boutoné" is a hand-manipulated inlay technique in which the supplementary weft is pulled up in certain design areas to make loops. The technique is used mostly for bedspreads and draperies but is also seen in pillows, table runners and even clothing.

The ground is usually in plain weave although other cloth structures based on 4-shaft twill threadings are also used. The pattern is worked in a contrasting color with a thick softspun yarn.



"Point boutoné" drapes

Traditionally, "point boutoné" has a discontinuous pattern weft which is cut $\frac{1}{4}$ " (6.4 mm) before the first and $\frac{1}{4}$ " beyond the last loop of each motif. Today, Quebecois weavers explore



Point boutoné in which the supplementary weft is not cut

various inlay techniques suitable for looped patterning and the supplementary weft is often laid in from selvedge to selvedge, adding texture to the ground on which the looped motif stands out. Sometimes the supplementary weft is woven back and forth in smaller design areas without being cut, thus forming a loop on the surface where it turns.

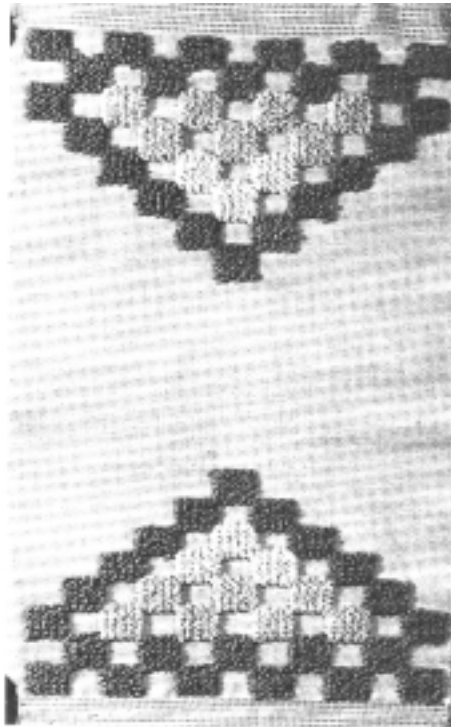


Table runner in a contemporary adaptation of "point boutoné"

Old-fashioned 'boutonné' bedspread contributed by the "cercles de fermières" of Quebec. The pattern is recorded by Oscar Bériau.

WARP: 8/2 cotton.

WIDTH IN THE REED: 86" (230 cm). Such bedspreads are woven on a double loom by two weavers sitting side by side.

SETT: 24 epi (90/10 cm) in a 12-dent reed.

WEFT:

ground: 8/2 cotton, same as warp.

inlay: White loosely spun wool or 12/4 cotton.

THREADING:



TREADING:

tr 1: ground weft

tr 2: ground weft

tr 1: ground weft

tr 2: ground weft + inlay weft

} repeat

The design is drawn on graph paper. (See Fig. 4). Each square represents 6 warp ends or $\frac{1}{4}$ ".

In the center of each pattern where the motifs touch each other, the inlay weft goes selvedge to selvedge for 4 pattern picks. In the other area a butterfly is needed for each motif.

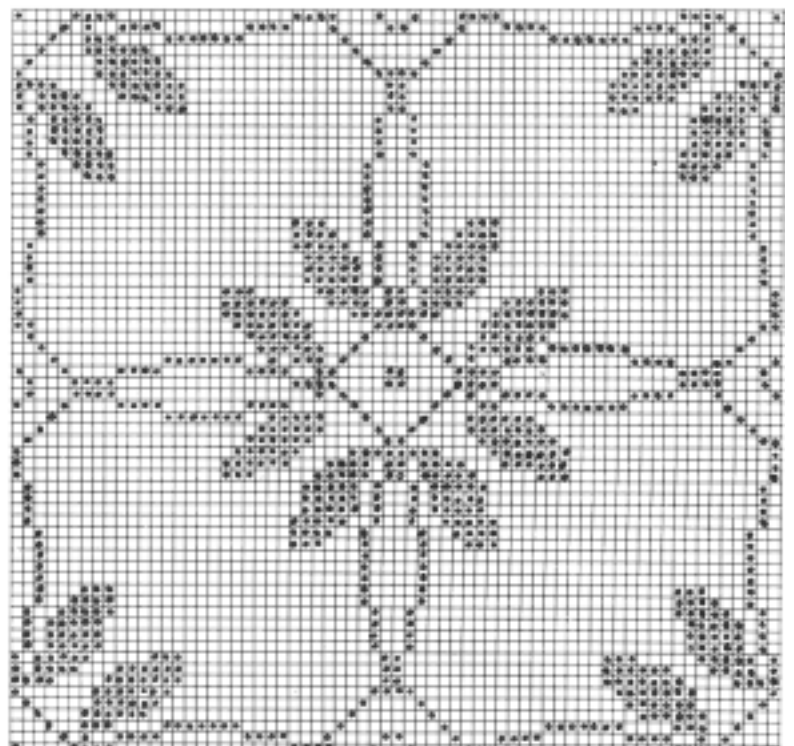


FIGURE 4

After the pattern weft is laid in, pull a loop with the shed open. One loop for each ● of the design, leaving 3 warp ends of the top shed between each loop. There are thus 6 warp threads per loop. For the isolated motifs, cut the pattern weft on each side of the motif but on the outside of the first and last loop, leave about ¼" of extra yarn in the inlay shed.

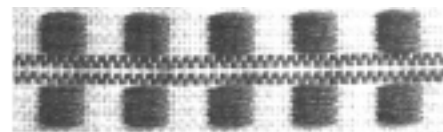
At the selvages, turn the pattern weft back onto itself and tuck it in.

The loop is pulled by hand or with a crochet hook. The loops may be held on a dowel until after the next ground weft is thrown, after which the dowel is pulled out.

TRAVAIL A LA PLANCHE

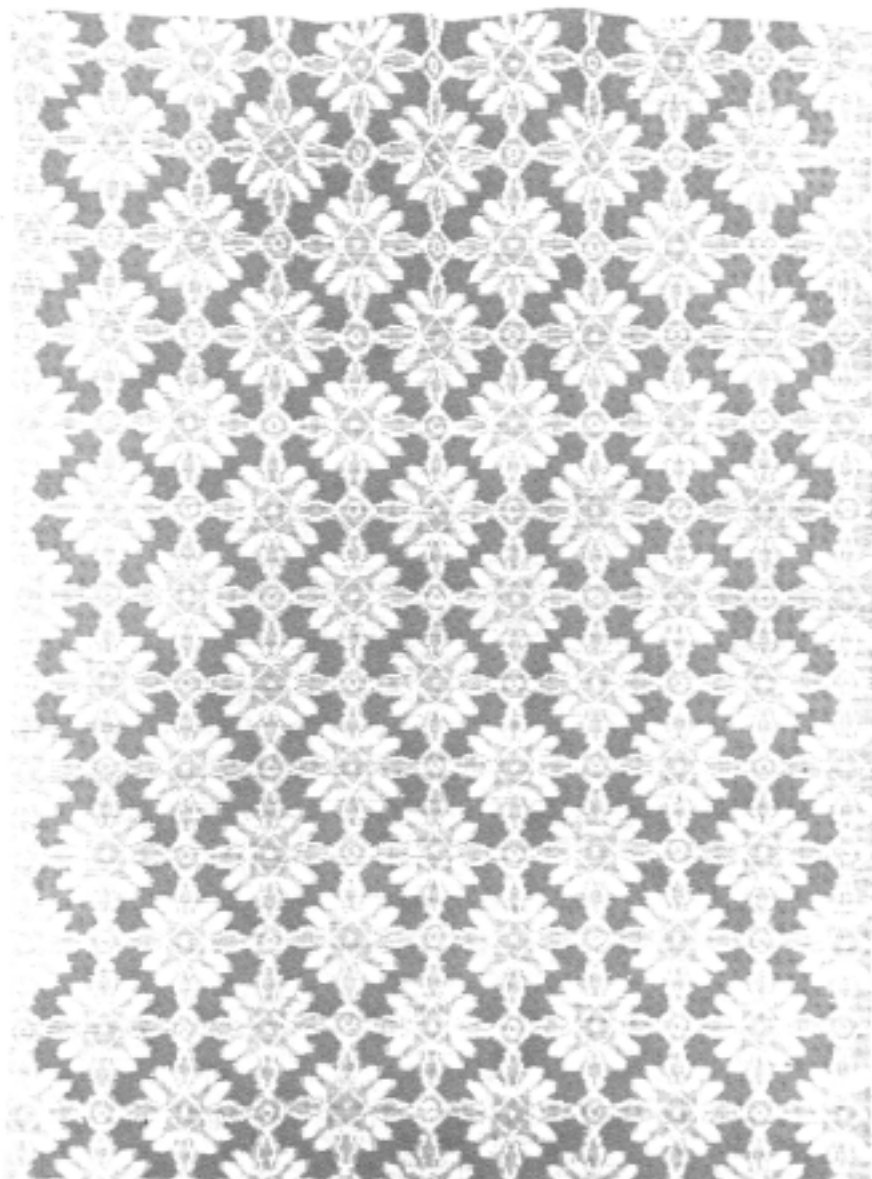
Like the "boutonné" technique, weaving with "la planche" was a means of making patterns on two shaft looms. The technique was mainly used for coverlets and is not practiced by today's weavers because of the widespread availability of 4-shaft looms.

"Travail à la planche" is a long-eyed heddle technique in which the two shafts of the loom are used to weave the ground while a wide shed-stick (2' to 3" (61 to 91 cm) wide plank) inserted between the castle and the back beam controls the pattern. The patterns produced by this method are similar to the "monksbelt" done on a 4-shaft loom.

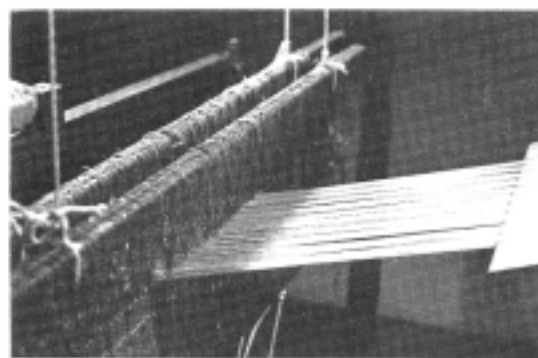


With a warp sett at either 16 or 20 epi (65 or 80/10 cm), the shed stick is inserted behind the castle so that groups of 8 or 10 warp ends are up while the next group is down.

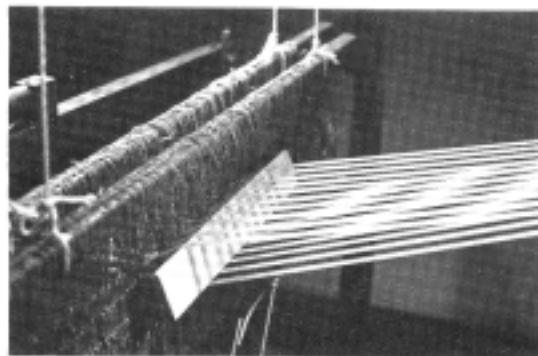
The string heddles of the ground shafts have eyes about 1¼" (32 mm) long through which the shed made behind the castle by the shed stick is transferred to the front of the loom for the 8 up - 8 down pattern pick. Each pattern pick is followed by a ground pick for which the shed stick is pushed back toward the back beam.



Traditional point boutoné coverlet



1) The plank is pushed away toward the back beam to weave the ground weft.



2) To weave the pattern weft the plank is brought close behind the harness and put on edge.



3) The shed is transferred to the front of the loom through the large eyes of the heddles.

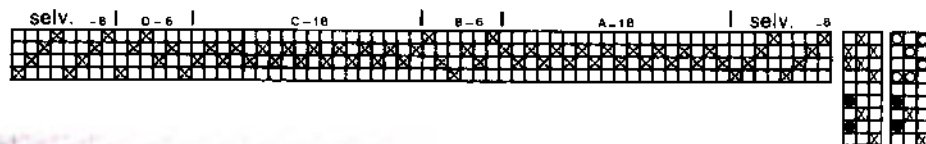
Pile woven bathroom accessories contributed by Germaine Galerneau

There are two types of pile weaves in the instruction books of the "cercles de fermières". One is twice woven in which the chenille is woven first and cut into long strips. Consequently these chenilles are used as weft to weave a new fabric. The technique is similar to the chenille leno rug described on page 26, but does not involve leno. The other method is a corduroy technique. Both are mentioned by Oscar Bériau in his book "Le Métier à Quatre Lames". The second technique was used by Germaine Galerneau to design a functional bathroom set to be reproduced by the members of the "cercles des fermières".

WIDTH IN THE REED: Approximately 23.5" (58.8 cm).

SETT: 30 epi (120/10 cm) in a 15 dent (60/10 cm) reed.

THREADING, TREADLING AND TIE-UP: selv., (A through D) 14 times, A, selv.



Chenille bath rug



Floor covering in rep weave by Pierrette Bouchard

Rep weave floor coverings, bedreads and placemats

WARP: 2/8 cotton, natural.

WEFT:

ground: (X) Same as warp.

pile: (●) 12/4 soft spun cotton.

WEAVING INSTRUCTIONS: Weave a plain weave heading for the hem, then alternate a tabby pick and a pattern pick.

When color changes are made in the pattern weft, the changes should be made in the center of the floats.

When the fabric is taken off the loom, spread it on a table and carefully cut the floats.

Projects that enjoy great popularity at the "cercle des fermières" are warp-faced rep weaves. This is a structure that is basically plain weave with a close-sett warp of two colors (end-on-end) and in which the weft alternates a pick of fine yarn and a pick of heavy yarn. Figurative designs can be woven on a 2-shaft loom by means of finger manipulations but on a 4-shaft loom one can produce handsome geometric patterns by loom control. Drafts on 4 (or more) shafts produce occasional short floats that are almost invisible but cause an offset in the color and thus create patterns.

In Quebec this weave structure is used for placemats, floor coverings and bedspreads. Bibiane April, the author of *Reps* and a popular weaving teacher, has contributed many designs which are now inspiring many weavers to explore patterns.



Between the castle and the beater, starting at the right of the leno area, lift the first lower thread to the left of the first upper thread and slip it on a pick-up stick. For the second leno pair, lift the lower thread to the right of the upper and slip it on a pick-up stick. Continue across the entire leno area. See Fig. 7.

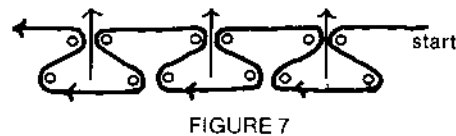


FIGURE 7

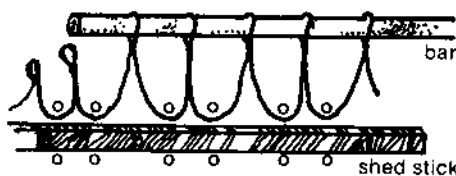
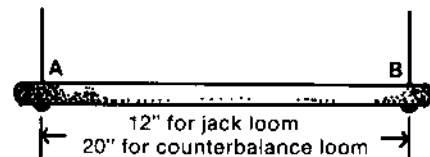


FIGURE 8

Turn the pick-up stick on edge in order to open the crossing shed. Pass the looped string through this shed from left to right. Take a loop between each warp thread lifted by the stick and slip it onto a metal or wooden heddle bar. Fig. 8.

To prepare the looped heddle string follow these steps:

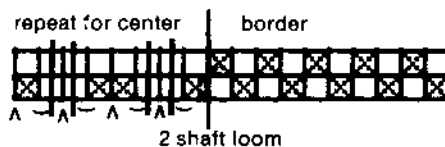
1. Make a jig with wood and two nails.
2. Wind the string around A and B keeping the tension even and making a complete turn for each leno twist plus a few extra.
3. Mark the string with a felt pen alongside the nails A and B.
4. Unwind the string and wind it into a ball to avoid tangling.
5. At each mark, tie a loop through which the heddle bar will be slipped later. To do this, fold the string on the mark and tie an overhand knot.



WEAVING LENO ON A 3-SHAFT LOOM: Lift shaft 1 (open shed), weave. Lift heddle bar and shaft 2, weave.

WEAVING LENO ON A 2-SHAFT LOOM: Lift shaft 1 (open shed), weave. Lift shaft 2, weave the border, close the shed and lift the heddle bar to weave leno area; lift shaft 2, weave plain weave border.

Note that the standing threads which are on shaft 3 could be left unthreaded on a 2-shaft loom but then it would be impossible to weave a plain weave heading.



WEAVING INSTRUCTIONS:

Weave 4 times the length of waist to shoulder plus seam allowances and a hem to make a casing for the drawstring.

SEWING INSTRUCTIONS: See Fig. 9

1. Sew the back pieces together overlapping the plain weave border.
2. Sew shoulder seams by easing the front sections.
3. Sew side seams by hand leaving armholes open.
4. Sew a casing for the drawstring.

WARP: Fine 2 ply blue wool, size 12/2.

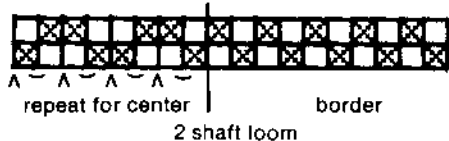
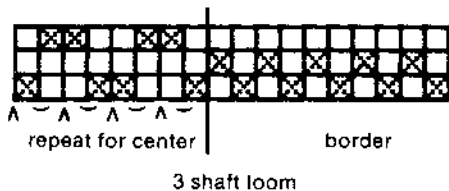
WIDTH IN THE REED: Approximately 11" (28 cm).

SETT: 15 epi (60/10 cm).

SLEY: Sley 10 ends, one per dent; sley 144 ends (two per dent, skip a dent) repeat; sley 10 ends, one per dent.

WEFT: 3 thin woolens, colors green, blue and black, wound together on the shuttle.

THREADING:



This threading alternates a right-hand and a left-hand leno twist.

PREPARING THE DOUPS: After the warp is threaded, sleyed and tied on, open the shed in which the first warp thread on the right hand side is down.

hem allowance for casing

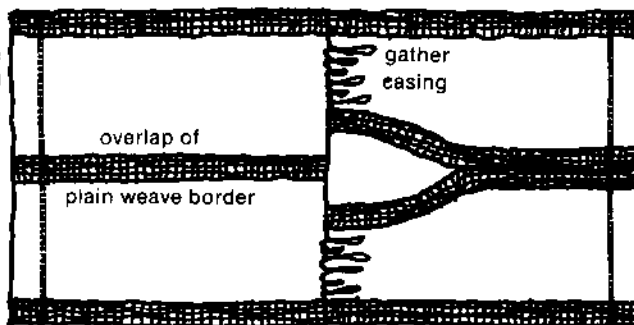


FIGURE 9

DEVOTION TO GARMENTS

Whether it is for the sake of production, for one's own use or to prepare a high-fashion designer's collection, many Quebecois seem to favor clothing above all other weaving projects.

Antoinette Tessier has her own studio where she weaves garments of classic simplicity. She and her photographer-husband draw their inspiration from the same source: color in nature. She selects her materials carefully and insists on making cloth that has a good hand. She designs, weaves and tailors and produces stylish and well crafted clothing with a lot of attention to detail. For instance, in the twill coat shown, the front and the woven facing are sewn together flat and by hand with the wrong sides facing in order to avoid a bulky seam.



Twill coat by Antoinette Tessier (detail)

Marie Andrée Morisset compares handwoven garments with one's "Sunday best". She writes "in my view, wearing a handmade garment conveys a sense of festivity, of pleasure which one bestows upon oneself and upon others by touching and sharing. Fibers, textures, color, design, finishes unite and harmonize within the execution of a shirt, a skirt, a coat or a bag. I use the finest materials—tussah silk, mohair—and plan my colors with care. (I dye a large amount of the fibers I use.) The weaving patterns are selected to coordinate well with the purpose of the garment. I especially like huck, leno, satins, textured weaves. I favor the wonderful subtleties of monochromatic effects. I want my finishes to be well-crafted and sometimes to be accented with a touch

of fantasy. I have a compulsion for tying-in with the old traditions of Quebec, that of cloth with a nice hand, Sunday-best garments, of good craftsmanship, of quality material which may be costly but which can be enjoyed for a long time and has a charm under which spell one is bound with pleasure."

Skirt inspired by a seashell contributed by Antoinette Tessier

Editor's note: Some details have been changed from the original text in order to simplify the instructions.

WARP: 2/25 wool in grey, beige and pink.

SETT: 30 epi (120/10 cm) in a 15 dent (60/10 cm) reed.

COLOR ARRANGEMENT IN THE WARP:

		60		60		60		60		90	
pink											
beige	60		60		60		60		60	90	
grey	120		90		90		90		90		
	4"	2"	2"	3"	2"	3"	2"	2"	3"	2"	3"

includes 1" seam allowance

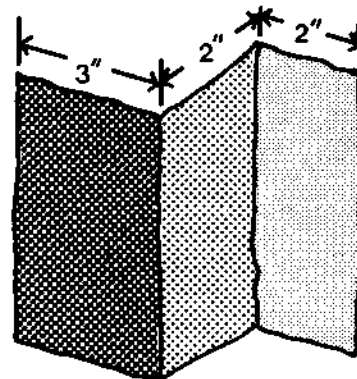
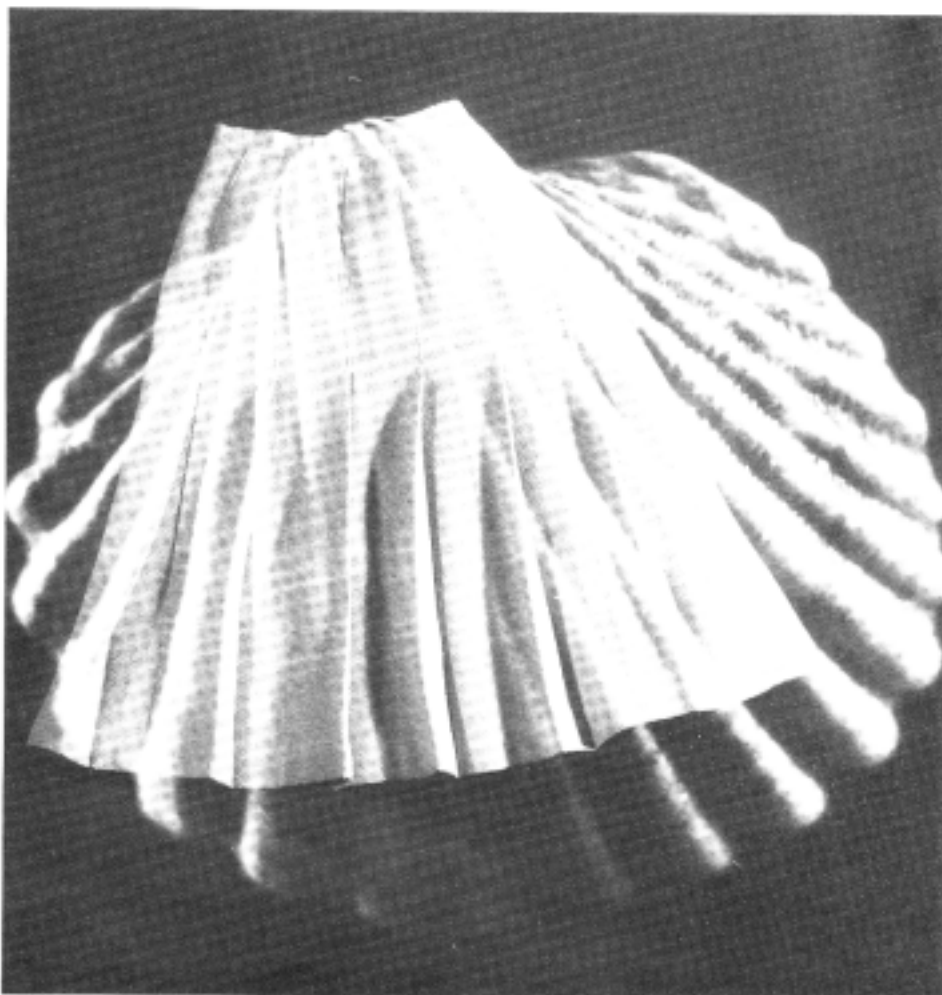
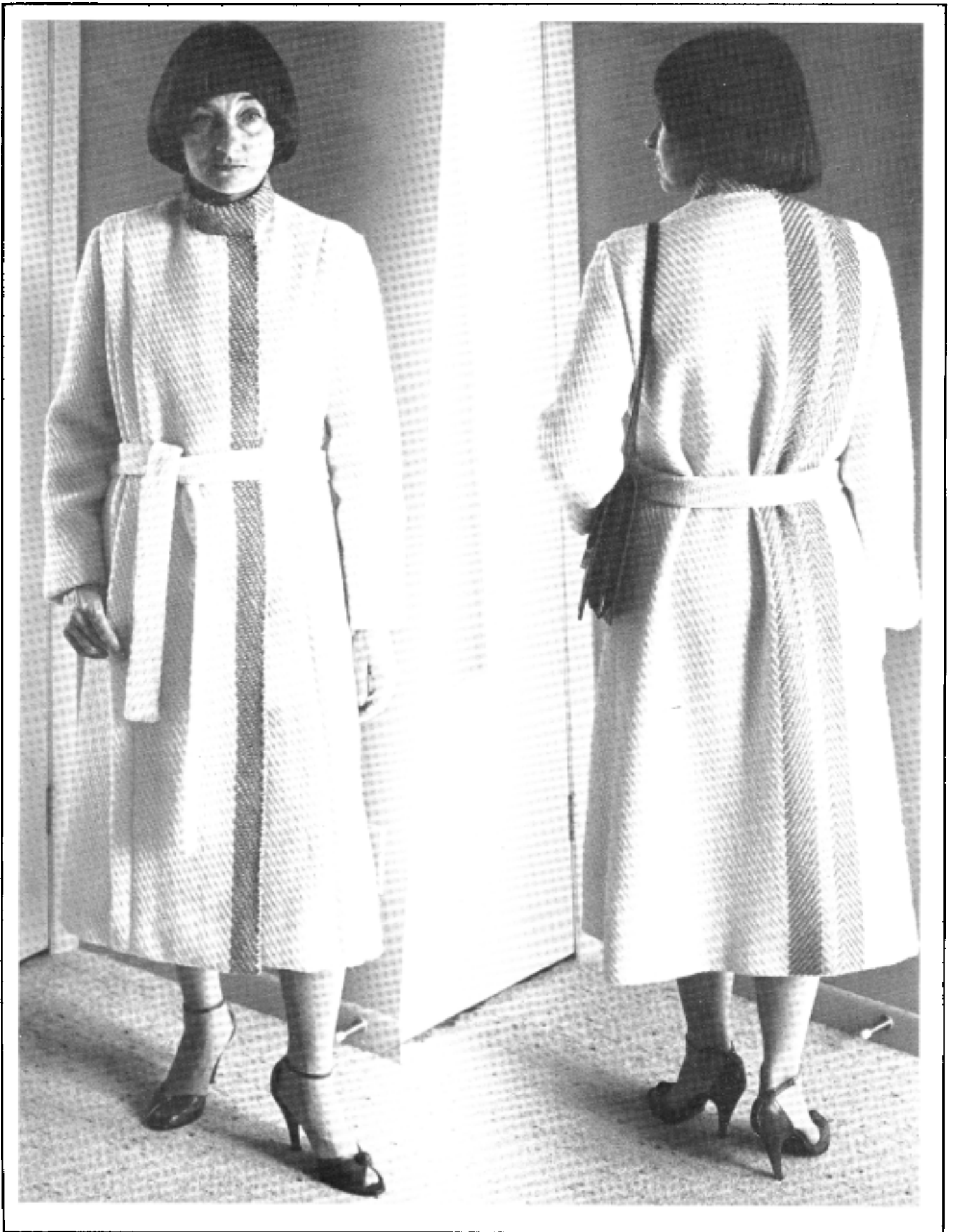


FIGURE 10

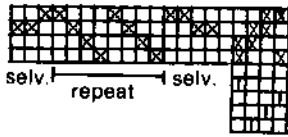


Pleated skirt inspired by a seashell, woven by Antoinette Tessier



Antoinette Tessier with twill coat

THREADING, TREADLING AND TIE-UP:



WARP CALCULATION: The skirt is pleated. Each pleat is 3" (76 mm) wide and has a fold 2" (51 mm) deep as shown in Fig. 10. The outer surface of the fold is grey (3"), the fold is beige (2") and pink (2"), for a total of 7" (18 cm) per pleat. For hip measurement of 36" (91 cm), the grey pleat area has to measure 45" (114 cm), thus allowing 9" (23 cm) for ease, shrinkage and welt take-up.

A 45" contour allows for 15 pleats or a total warp width in the reed of 105" (2.67 m) plus seams. The skirt can be woven in 3 panels, each 35" (89 cm) wide plus a 1" (25 mm) seam on either side, as shown in Fig. 11. Each panel is 36" long.

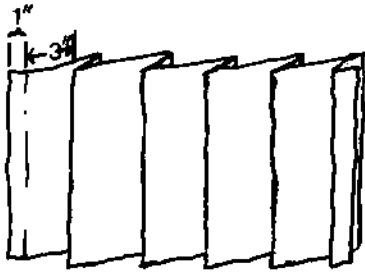


FIGURE 11,

WEFT: 2/10 blue heather wool.

WEAVING INSTRUCTIONS: Weave 3-36" (91 cm) panels and a belt. Remove from the loom, wash, full and press.

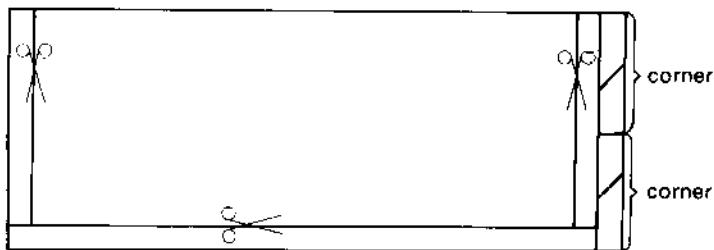


FIGURE 12



Stole with decorative hood by Marie-Andrée Morisset

Stole with hood contributed by Marie Andrée Morisset

WARP: Corriedale wool handspun by Louise Virgeant, breeder of the sheep.

SETT: For balanced plain weave.

WEFT: Same as warp.

WEAVE STRUCTURE: Plain weave.

FINISHED WIDTH: 20" (51 cm).

FINISHED LENGTH: 72" (183 cm).

WEAVING INSTRUCTIONS: Weave one large rectangle.

SEWING INSTRUCTIONS: Cut the rectangle as shown in Fig. 12 and sew it back together as in Fig. 13, adding a lacy crochet insertion done with linen in monochrome browns and rusts. On 3 sides tie-on long fringes, on the fourth side, crochet a linen edging. Fold the rectangle in half and sew the crocheted edge together for 6" (15 cm) from point A to B. Make a few more rows of crochet along the CBC edge. Attach a big tassel to the point. The hood is decorative only but it helps with the drape of the stole around the shoulders.

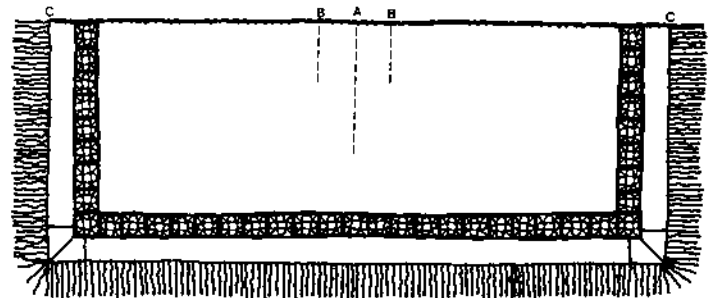


FIGURE 13

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MAGAZINE HOLDER

This magazine holder is a useful project in warp-face rep weave. A two-ply tapestry worsted was used for both the back and the straps.

The straps were woven on an inkle loom using 13 warp ends. The weft used is the same as the warp.

The back can be woven on a two harness loom but if four shafts are available it is advisable to thread the warp on a straight draw and to use the tie-up shown in Fig. 1.

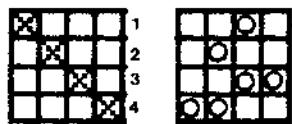


FIGURE 1

The warp is 14" (34 cm) wide sett at 24 epi (100/10 cm). The warp is arranged in bands and stripes of solid color and of alternating two colors as if it were an oversized inkle belt. The warp is triple sleyed in an 8 dent reed.

To open the first plain weave shed, lift shaft 1 with the left foot, then lift shafts 1 and 3 with the right foot. Weave with a thin cotton or linen weft yarn.

To open the second plain weave shed, lift shaft 2 with the right foot, then lift shafts 2 and 4 with the left foot. Weave with the thin weft but insert also a heavy yarn (or several strands of yarn) to make a wide rib. The straps are tacked on the back by hand sewing stitches.



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MITHILAVNE ZORN
AND ELAYNE POLLARD ROWE

Weaver's Journal Monograph IV

SLING BRAIDING OF THE ANDES

by Adele Cahlander
with Elayne Zorn & Ann Pollard Rowe

ISBN 0-937452-03-3 Library of Congress Catalog #80-67114

Illustrated with Color
and Black/White Photographs and
with Line Drawings

Published by
Colorado Fiber Center, Inc.
With the help of a grant
from the National Endowment for the Arts

ABOUT THE BOOK

Slings have been used since before the time of David and Goliath. Shepherds used slings to guide their sheep and to protect the sheep from marauding animals. In the Andes, slings took on ceremonial importance as well. Through the years, they were developed into works of art.

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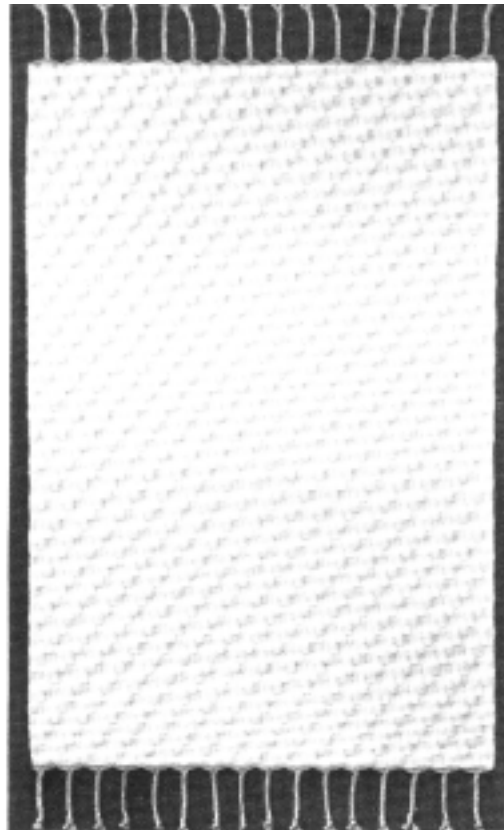
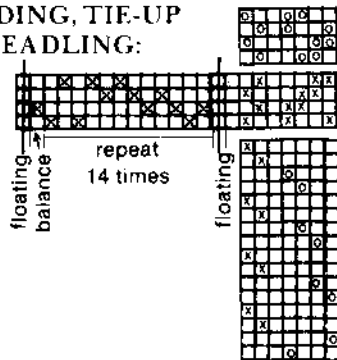
ALL WHITE OVERSHOT RUG by Connie Kendahl

This rug was shown in Amherst, MA during the '81 New England Weaver's Conference. It can function as a wall-hanging as well. Its classic simplicity allows the viewer to enjoy the subtle play of light emphasizing the surface texture and the quality of the fibers.

WARP: 10/6 Irish linen.

SETT: 5 epi in a 10 dent reed (skip every other dent) or 20/10 cm in a 40/10 dent reed.

THREADING, TIE-UP AND TREADLING:



WIDTH IN THE REED: 34" (84.5 cm).

TOTAL NUMBER OF ENDS: 174.

WEFT: New Zealand wool (from Ironstone).

pattern: 4 strands(O)

tabby: 2 strands(X)

WEAVING INSTRUCTIONS: Start and finish with 6 rows of tabby.

FINISHED SIZE: 33' x 53" (84 x 135 cm).

Connie Kindahl began her weaving career seven years ago at the Monica School in Oslo, Norway. She is now a professional weaver in Pelham, Mass. where she lives with her husband and children. Her handwoven rugs are sold in New England galleries and shops. She values her contacts with other weavers and is a member of the Massachusetts Hampshire Weaver's Guild and of the Handweaver's Guild of America. Connie received her Master Weaver's certificate in June, 1981. She has received recognition for her work, winning awards in fiber at the New England Weaver's Seminar Exhibit and awards as well as best of show in the Eastern States Exposition.

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THE STORY OF MY DINING-ROOM RUG



photo by Betty Harmon

by **Carrie M. Rogers**

Before starting the story of the rug, let me tell you about the loom I built in 1949, when I first got interested in weaving. I had a workbench and a few tools, but limited knowledge of both wood-working and weaving. The material I used for the loom was lighter weight than it should have been for the rug weaving I expected to do. I discovered this with my first attempts at weaving on my new 2-shaft, counterbalance loom.

I wanted rugs that were thick and soft; rugs that would lie well on the floor, not slide around or kick up easily. I was using torn strips (rags) from old garments as weft, and I tried different widths and weights of material as well as different warp settings, yet did not get the results I had hoped for.

Somewhere I had seen a diagram showing a lengthwise cross-section of a 2-shaft weave and how the warp threads enclose the weft material. If two colors were used in the warp, alternately, the colors would show on the surface every other weft row as in Fig. 1.

Then came the idea of a third warp thread enclosing the weft. I hoped that maybe I would have a thicker rug and that the cross section would look as in

Fig. 2. One set of warp threads would come on the surface on every third row of weft.

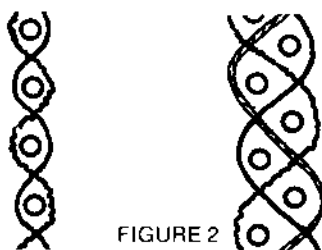


FIGURE 1

FIGURE 2

This would necessitate adding another shaft to my 2-shaft loom, so in 1950, I improvised another shaft, added another treadle, and threaded the loom in a straight twill (see Fig. 3). I tried out different treadling sequences with the six possible tie-ups. I could treadle shaft 1 down, 2 down and 3 down in succession and get a warp twill. I

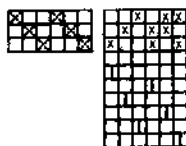


FIGURE 3

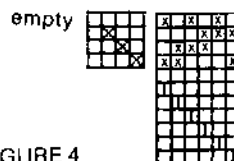


FIGURE 4

could treadle shafts 1+2 down, 2+3 down and 1+3 down in succession and

have a weft twill. Then came another idea—why not mix these two twills? So I wove the treadling shown in Fig. 3 and this became my favorite draft for the many rugs woven during that year or so. The rugs were most satisfactory, double thickness, laid well, and wore so well that some of them are still in use after thirty years and more.

But interests change, and by 1952 I wanted to get into 4-shaft weaving, do some twills, overshot and related weaves. So I planned further remodeling on my loom. I added lams which I hadn't needed before, added more treadles and another shaft, with the standard tie-up to the six treadles now available. It was now a conventional 4-shaft, counterbalanced loom, and was most satisfactory for the many types of weaving I wanted to do.

By 1953 I wanted to make more rugs and even had dreams of weaving a room-size rug for our dining room. The 3-shaft weave had proved most successful, but I wondered if I could do 3-shaft rugs on my present 4-shaft set-up. I very much hoped so and set out to try.

Then came another idea: I would thread the first three shafts as in Fig. 3, leaving the fourth shaft empty. When each of the three single shafts were to be raised (or lowered), it would be combined with shaft four and shaft four, being empty, would allow them to act properly. Fig. 4 shows the 4-shaft tie-up which allows the weaver to 'walk' the treadles, but other sequences could be used.

One nice thing about this weave structure is that it can be used on any kind of loom: jack, countermarch, or counterbalance. If only one shuttle is used in the weaving, the upper and lower surfaces of the rug are identical in appearance, but if two shuttles, wound with different colors or material are used, the surfaces will be different. One thing that hasn't been mentioned is that I used "floating selvages". I had, at that time, never heard the term but I felt the need and worked out for myself this very useful helper.

Weaving the big rug was started early

in 1953. I had accumulated a quantity of old woolen material and planned the rug which would be woven in four lengths (strips) that would be joined together to cover most of the eleven-foot-square room. The weave would be 3-shaft double faced weave, as described above. The two surfaces of the rug would be the same, and hopefully would have the appearance of an old time "Hit and Miss" rug. I thought this type of rug would complement my new Colonial maple furniture.

In order not to have too much hit and miss, I would try to have the colors match up at the seams where the strips were joined. This was a big order and took careful planning. Essentially the four lengths would have to be practically identical as to color arrangement. I will try to explain how this was done.

I strung up the loom with three colors, each on its own shaft using good quality carpet warp. I like a dark warp, so chose gray, green, and maroon. I wanted the warp to be doubled so I used the method called "sister fashion". This means two warp threads of the same color, side by side, each with its own heddle and dent. I used a 12 dent reed so had 6 working ends per inch (25/10 cm).

Preparing the material involved ripping, washing, and tearing the woolen garments into rags of $\frac{1}{2}$ " (12.7 mm) to $\frac{3}{4}$ " (19 mm) in width, depending on the weight of the material. Some materials might have to be cut, but I always tore them if I could.

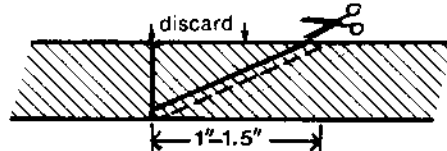
Experiments had shown the desirability of having quite a lot of black in the color mixture, so I sorted the rag strips into piles of black, medium blues, medium greens, grays and tans. No white, bright red or dark brown was to be used. I sewed the rag strips in each of these piles together and wound large balls of each color. From these balls I could make up the mixture of colors that would give the hit-and-miss look that I wanted.

I decided to use black for every third color, and two of the neutrals (grays, blues, greens and tans) between the blacks. I had to establish a length for the rag strips so there would be a semb-

lance of order for the rug. I decided on two lengths that would be used alternately throughout the whole weaving. One length would be $2\frac{1}{3}$ times the width of the warp, the other to be $2\frac{2}{3}$ times the width of the warp. The reason for this will become apparent as the weaving gets under way.

Some bright accent colors seemed to be desirable, so some rag strips of deep rose and some of gold were to be inserted about every 5" (12.7 cm) in the weaving. I dyed some white wool to obtain these colors. They would be scattered over the rug as seemed best, and a definite plan could be worked out. I did this after the rug was started.

To prepare the mixture of rags for the shuttle, I cut lengths of both sizes from each of the balls (previously prepared), keeping the lengths separate. To sew rags for the first 5" section, I picked up two different neutrals, one long, one short, and pinned them together, pinned on a black of the proper length, then two neutrals (any combination as desired) and continued until several of each kind had been pinned. These were then sewed together. My way of joining the rags is to lap the square ends about $1\frac{1}{2}$ " (38 mm), sew across the diagonal, then clip fairly close to the seam (on both sides). A large rug shuttle should hold about enough to weave a 5" section.



I prepared 3 more identical weft combinations to be used for weaving the other lengths of the big rug.

To start the weaving I filled a shuttle with black and wove about two inches for border, ending the weft about one third the way in from a selvedge. Then a neutral rag strip was inserted and the section woven as planned. You will notice that if the rag strips are the proper length, the joinings will all come about one third the way in from a selvedge. If they don't, a little change in the rag strips size should be made. Some of the joinings will be on the upper surface and some on the lower side.

When the 5" section had been woven, I

left out one of the neutrals and replaced it with an accent color of the same size. A black was never left out, just one of the neutrals. I found that wise use of the rose and gold added considerably to the rug design and to the interest of the one doing the weaving.

In pinning the rags for the second 5" section, keeping in mind that every third rag was black, the starting rag could easily be selected for color and size. This routine continued on to the end of the first strip, then the strip was cut from the loom. I had it to look at as I wove the second strip, and the plan was repeated as other strips were completed.

To join the strips I used two bodkins (very large blunt needles) threaded with carpet warp. I laced the edges together as one would lace up shoes. Taking care of the warp ends completed the rug. I had planned for hems, but fringing would also have been satisfactory.

There is still another chapter to my story: the rug was completed in late 1953 and received rather hard wear for 19 years. By that time there was some breakage in the warp, and I felt it would not stand another cleaning. Something had to be done but I could not stand to discard it. So here came another idea: why not tear it up and do it over?

So that is just what I did! In the fall of 1972 I moved the rug down to my basement workroom, ripped off one of the strips, and raveled out the first 5" section keeping the joinings intact. I then washed the material and got it ready to weave on the new warp that was prepared in advance. This process was continued, section by section and went very well except that some individual rags had to be replaced because of noticeable wear. I kept careful notes on all substitutions and, of course, when the first strip was off the loom I had it to go by. The weaving took a few weeks, but I had it back on the floor in January of 1973. It has been turned once but shows little wear or fading. It does not get hard use now as it did when we had more family at home. I expect it to last through my remaining lifetime.



photos by Ellen Champion

SUPER RUG: A CHENILLE "TWICE-WOVEN" RUG

by Ellen Champion

Our passive solar house in Colorado has dark ceramic tile on concrete floors so the sun's heat can be collected when the sun shines on the tile. I designed a super rug for the center of one room, for beauty and softness, allowing the sun to do its job on the majority of the tile floors. I chose to weave a chenille "twice-woven" rug, requiring two steps, as described briefly in *The Weaver's Journal*, Issue 10, October 1978, pp. 38a-39. The first step makes chenille which will become the weft for the second step, which weaves the rug.

STEP ONE: DOUP LENO CHENILLE

WARP: Cotton string.

LENGTH ON THE WARP: 16 yards (14.6 m). (After loom waste and considerable take-up, 12.7 yards (11.6 m) were woven).

WIDTH IN THE REED: 40" (102 cm)

SLEY: 3 ends in one dent, skip 2" (51 mm). See Fig. 1.

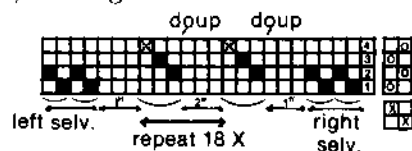


FIGURE 1

THREADING, TIE-UP AND TREADLING: The doups (half heddles) are attached to the top heddle bar of shaft 1. The loops pass under the standing threads which are threaded on shafts 2 and 3 and enclose the crossing thread which is on shaft 4. See Fig. 2.

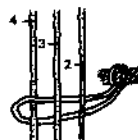


FIGURE 2

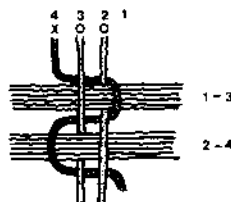


FIGURE 3

WEFT: 6 strands of rug wool wound together on a large rag shuttle.

WEAVE STRUCTURE: See Fig. 3. Notice that the crossing thread is put under great stress, especially when shafts 1 and 3 are lifted. It is pulled under the standing threads and lifted on the other side of those threads. The stress is alleviated by not beaming the

crossing threads but, instead, weighting each of these 19 threads individually with identical weights.

WEAVING INSTRUCTIONS: These chenilles were woven with the aid of a temple to avoid drawing in. A shed stick was used because the 1-3 shed is very narrow. The shed stick is carefully slipped in the shed and then turned upward against the reed to facilitate moving the shuttle through the shed. The multiple weft is beaten into place as hard as possible.

FINISHING THE CHENILLES:

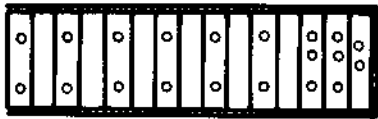
When a web was woven, I removed it from the loom and carefully tied the groups of 3 warps with an overhand knot, leaving about 6" (15 cm) of warp beyond the knot. If any leno crosses were skipped by mistake, I carefully reproduced the crossing with a needle and warp string so that there were no loose areas in the web. The web was then cut in the center of each 2" (51 mm) spacing, cutting across the wefts the entire length of the warp to produce flat chenille ropes, 2" wide. I also cut off the selvages, leaving 1" (25 mm) of weft with the side chenille rope.

The chenille ropes were washed gently a few at a time in a washing machine to fluff them up. I used Calgon and warm water for 8 minutes at a gentle agitation, then spun damp-dry for 4 minutes at regular speed. I put them in my dryer for 5 minutes at normal heat and then hung them up to finish drying. There was considerable wool lint left in the dryer, which had to be cleaned frequently, but it did no harm to the machine.

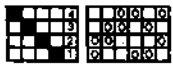
STEP TWO: TWILL WEAVE CHENILLE RUG

WARP: 10/6 linen used double in a 5 dent reed (2½ working epi or 10/10 cm) 4 yards (3.66 m) long, 60" (152 cm) wide.

SLEY: 5 dent (20/10 cm) reed

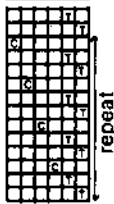


THREADING, TIE-UP AND TREADING:



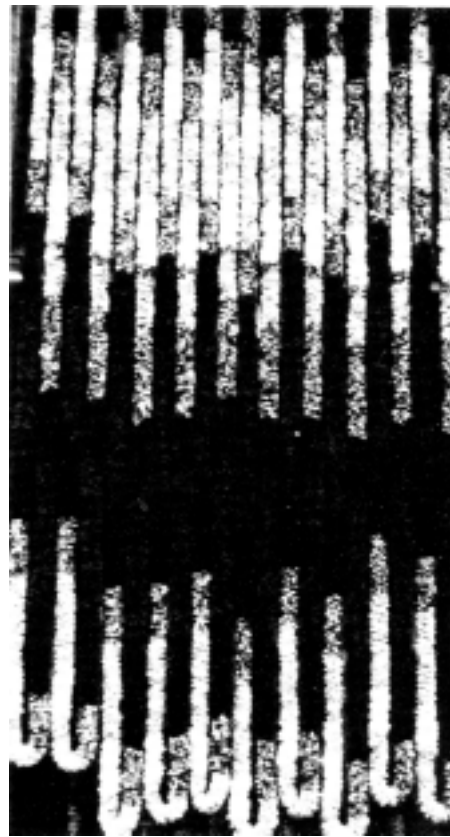
T = tabby rug wool

C = chenille rope



WEAVING INSTRUCTIONS: The chenille rug is woven in a 2/2 twill with two tabby picks of doubled 3-ply rug wool used after each chenille shot. Start with 2 tabby shots, then one chenille; repeat, ending with 2 tabby shots.

My chenille ropes were so long I could not wind them on a shuttle, so I tied one end of the chenille rope on to a large rag shuttle, wound it twice around, and just let the rest of the rope lie on the floor. The shuttle was passed through the shed and the tail of the rope pulled on through by hand. The end of one chenille rope was tied on to the beginning of the next one as needed. This is seemingly slow weaving, but the chenille is so thick that the rug, 60" X 100" (152 X 254 cm), was woven in about 3 days. The rug pattern was accomplished by selection of either a "brown" or a "white" chenille rope as desired.



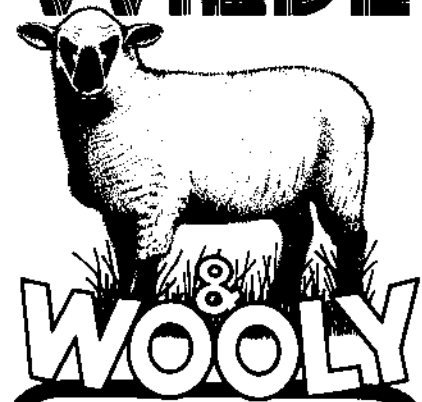
It is necessary to beat the chenille and the tabby picks very hard. The reed and shafts of the loom had to be raised as I went along to accommodate the growing diameter of the rug on the cloth beam.









When the rug weaving was finished I used a weft protector, the half-Damascus edge, and wove the warp ends back into the rug.

The finished rug, 60" X 100" X 1½" (38 mm) thick and 28 pounds (12.7 kg), is now the center of our "great room", providing beauty as well as function for tough use. Cleaning is by a gentle brushing with the vacuum, and once a year the rug will be taken out to the deck to be brushed with fresh cold snow.

Ellen Champion is a member of the Handweavers Guild of Boulder and the Handweavers Guild of America. She is in charge of production for The Weaver's Journal, in which her weaving is occasionally published. She has art degrees from the University of Wisconsin and the University of Delaware. Ellen attributes her interest in weaving to her great grandfather, an immigrant from England, who was manager of the Monticello Woollen Mill in Monticello, Wisconsin in the 1860's. As a child, Ellen visited the mill several times and saw blankets being woven from customers' fleece. The mill burned down in 1950.

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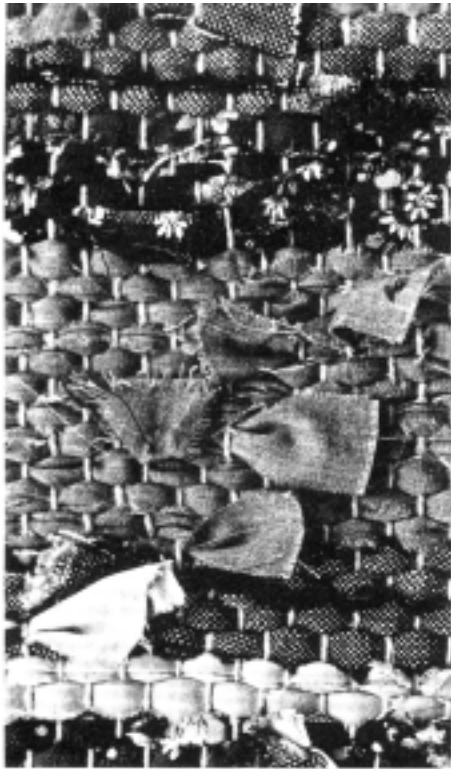
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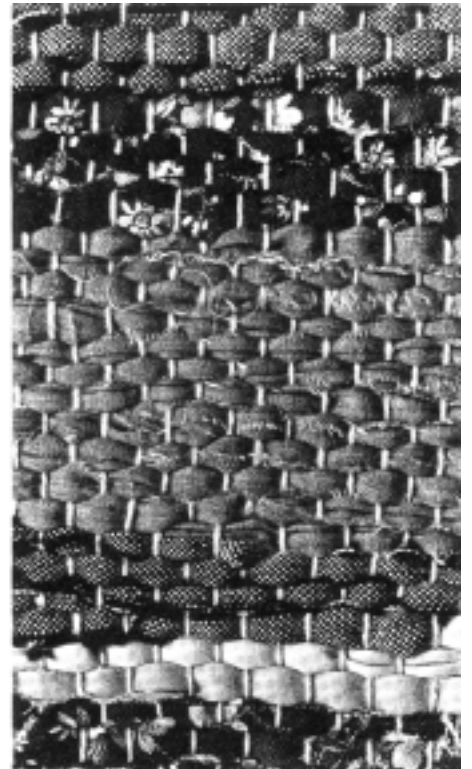
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RAG RUGS WITH OVERLAPPING WEFT ENDS



contributed by Ruth White

"TWICE FOUND" TECHNIQUE

Having grown up in a hundred-year-old stone house and hearing my father talking about rolling balls of ragstrips for grandmother's wall-to-wall hit-and-miss carpets made me interested in rag rugs.

Sometimes weavers have viewed makers of rag rugs disdainfully, but that opinion is changing since rag rugs have gone high-style and turned into today's decorating sensation.

I am using a technique for joining ragstrips without sewing them. The rag strips are laid in the open shed, the ends overlapping under two warp threads and extending about two inches beyond the two threads. Little bows appear to be scattered over the surface, thereby creating a textural effect. The other side is a smooth even surface without the bumps of sewed rags.

Of course carpet warp is used for rugs and it can be threaded and dented 6 epi (25/10 cm). For a sturdier rug 12 epi (50/10 cm) may be used with two threads through the heddles and dents. When weaving rugs beat really hard.

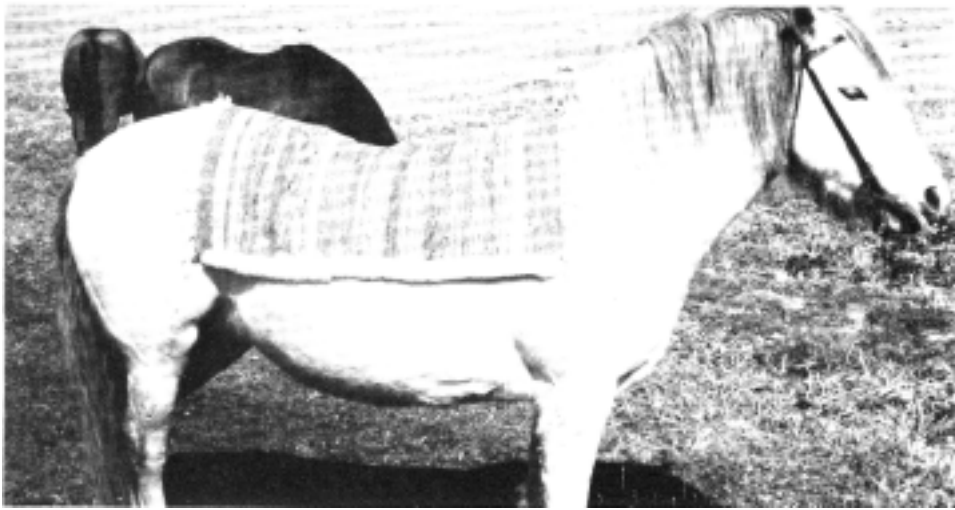
Broad stripes make a pleasing design, especially when delineated by three shots of a coarse black yarn to separate the colors. Choose a color that seems harmonious with the preceding broad stripe. Stripes of black, gray and red make a striking rug.

I find my materials: clothes I no longer wear; in flea markets; at thrift stores and rummage sales. They provide fabrics with pleasing colors and interesting textures.

Being an admirer of Kurt Schwitter's art and collages brought me the idea to hunt for found fibers. Boxes of found ropes, twines from baled hay,

dyed twines, twines from packages, plastic twines, cedar bark, corn husks, odd spools of coarse string and yarn, pieces of colored burlap, some rags had accumulated. Coarse bright synthetic yarns were combined with carpet warp and threaded 6 epi. So far three warps have been woven making pieces 30" x 110" (76 x 280 cm). They are woven in the found technique of having the weft ends becoming a part of the textured design: quite smooth on one side and all the ends hanging out on the working surface as one weaves. They can be rugs on sheltered patios and in garden rooms. Or, they make nice hangings on stone and brick walls or on weathered wood walls. ■■■■





SADDLE BLANKET

by Gale Corsini

The earth is the source of my inspiration. The colors of the land, sky, water, plants and animals as they change through the seasons are translated by vegetable dyes to handspun wool yarns and then are woven.

The specific motivation for this particular piece was the acquisition of a horse—white with silver grey mane and tail. I made a saddle blanket for her using the colors in the winter sunrises seen from our living room window. The greys of the clouds often hovering around the Bannock Range southeast of us were represented by natural grey sheep's wool. The golds

and oranges from yarns dyed with onion skins, goldenrod, rabbit brush, and marigolds were the light from the rising sun.

We lived several miles out of Aberdeen, Idaho at that time in a little house on a couple of acres. I got my wool from our sheep and those of neighbors. I gathered plant materials for dyeing from our garden, alongside ditches and the canal, scrub land, and the mountains when we'd go camping or hunting.

I was able to get a wide, varied range of sun colors from pale yellow to a red

orange using the plant material and various mordants. For example, flowers from rabbit brush with alum and cream of tartar gave a light yellow; with tin a very radiant yellow. Goldenrod flowers with the same mordants gave pale and bright yellows with a more golden character. The red orange came from sunset cosmos using tin. I blended and contrasted the luminous colors as I wove, separating the bright areas by bands of neutral, rich grey.

The blanket was woven in weft face plain weave on a 36" (91 cm) loom and tightly beaten.

Many things came to pass that fall and winter while the blanket was on the loom. It was finished one day and taken off. I remember feeling mildly surprised at its remarkable appearance—complete and unflawed. I bound the edges with sheepskin. Then we put it to good use under the white horse's saddle for pleasure riding, hunting, and a long three day trip in the Spring from Aberdeen to Arco.

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OBSERVATIONS ON THE SIX-END BLOCK DRAFT FOR RUG WEAVING

by Alice Schlein

"Why would someone with multiple-shaft looms choose to weave rugs on only four shafts?" This is a question I am frequently asked, and my answer is invariably, "Because of the Six-End Block Draft." The endless pattern possibilities of weaving welt-faced rugs on this threading are truly seductive.

The characteristics of the Six-End Block Draft which make it especially appealing for rugs are:

1. Large scale of threading units; patterns weave up large enough to be "readable" at the eye-to-floor distance, the correct viewing distance for a rug.
2. Clarity of pattern; blocks stand out boldly from each other. Each block weaves with its opposite block on the reverse side of the rug. Often a carefully composed pattern will produce a surprisingly different pattern on the reverse side; in such cases, one is hard-pressed to decide which is the "right"

side. Fortunately the rug is completely reversible and such a decision need not be made! Additionally, there is a secondary "ghost" image; patterns weaving in one block show up as faint echoes in the other block in the same horizontal position. Instead of regarding this as a defect, I recommend exploiting the effect in planning rug designs. The "ghost" shows itself to a greater or lesser degree depending on yarns and sett. See Photos 3 and 5.

3. Uniformity of float size; the floats all skip over three warp ends. This gives a smooth and regular appearance to the surface of the rug, as well as a sturdy yet flexible construction.

What, exactly, is the Six-End Block Draft? It is a unit draft yielding two pattern blocks on a four-shaft loom. The threading units, each six ends long, may be repeated any number of times to yield blocks of any size, and half units may also be threaded, as

long as the proper tie-down sequence is maintained. See Fig. 1 for draft. Two shafts (usually 1 and 2) are reserved for tie-downs, leaving shaft 3 for one pattern block and shaft 4 for the second. Weavers will immediately recognize the relationship of this weave to Summer and Winter; indeed, as with Summer and Winter, the Six-End Block Draft may be expanded to more shafts, each additional shaft yielding an additional pattern block. However, in this article I will confine my remarks to the 4-shaft version.

In using the Six-End Block Draft for welt-faced rugs we also notice that we are treadling a bound weave: the same four sheds are used over and over, the only changes coming in the color of the weft yarn used in each shed. See Fig. 2. Most four-shaft looms have six treadles, which will conveniently accommodate the six balanced sheds used in this weave: four pattern sheds



Photo 4. Rug with three A-blocks and two B-blocks, all of equal size. 3' X 5'. Variety of wool yarns. Columns plainly visible.

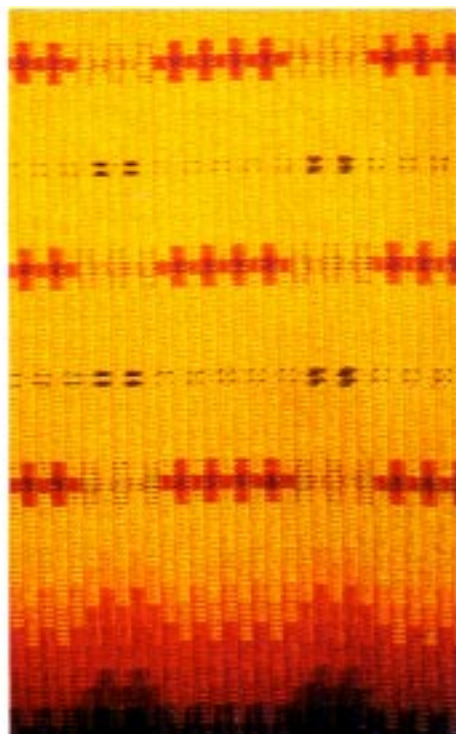
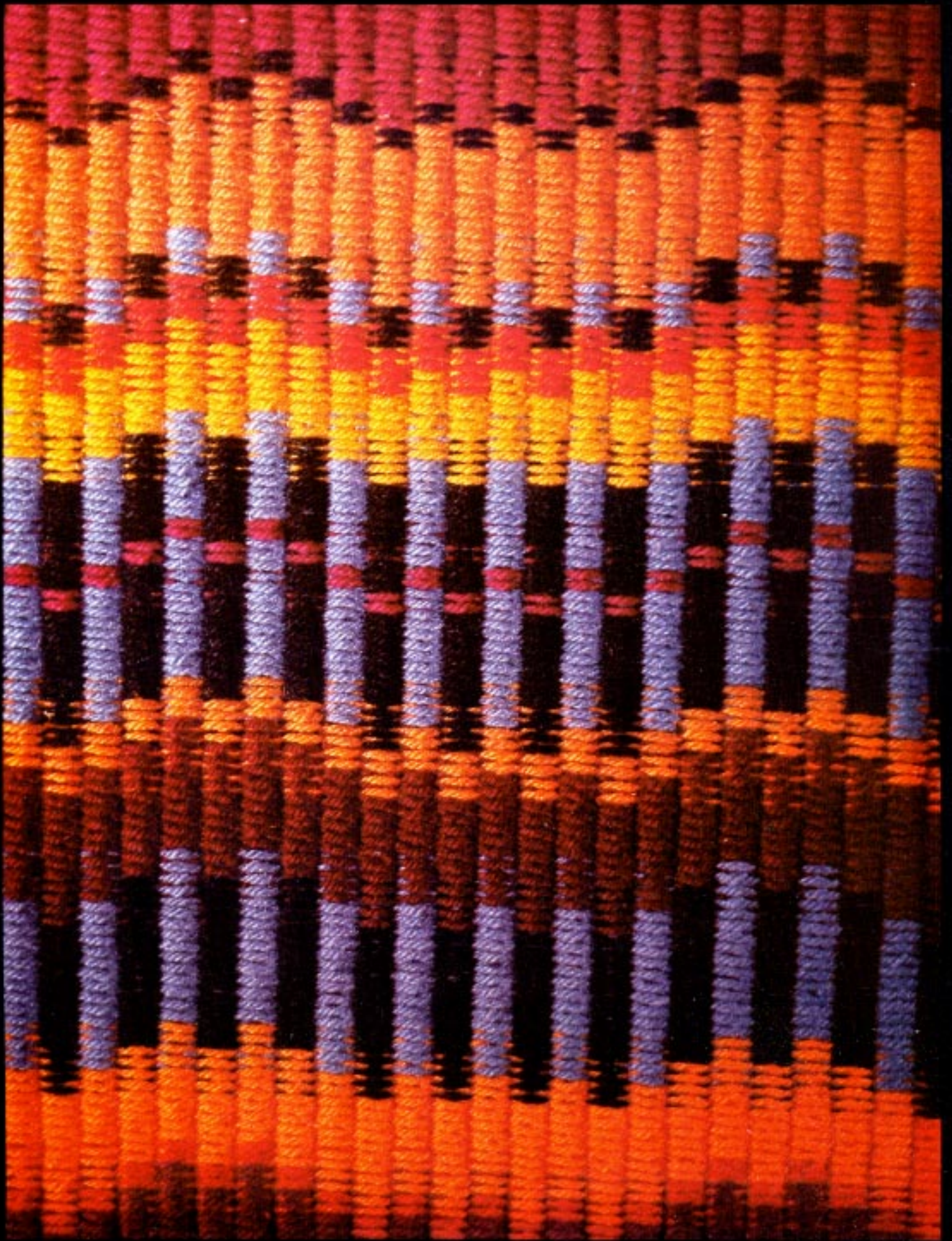


Photo 3. Detail of a rug with unequal-sized blocks. Note the "ghost" images between the patterns. Heavy 3-ply wool rug yarns.



Photo 7. Yet another border, with central medallion. 3' X 5'. Five equal-sized blocks. Swedish cowhair.



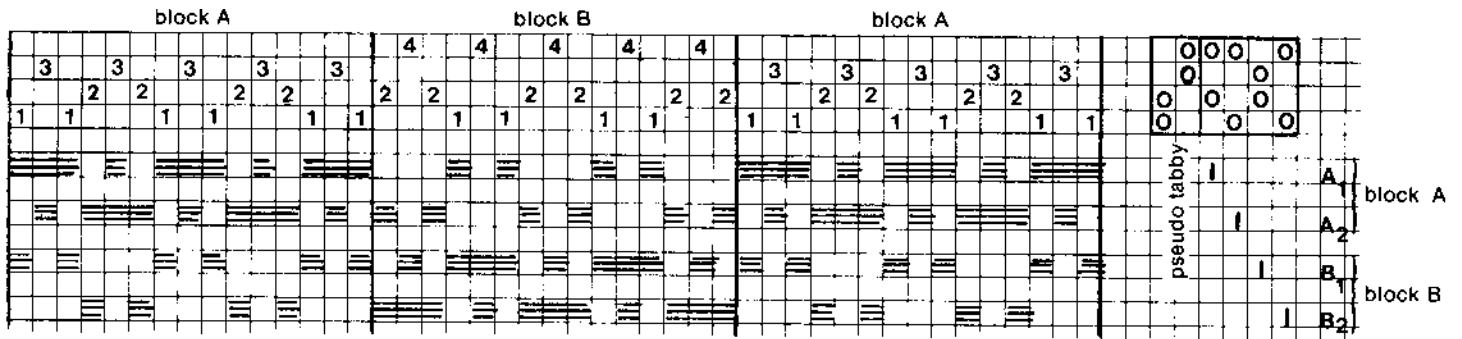


FIGURE 1. A sample draft: Each block contains 2½ repeats of the six-end threading draft. Notice the alternating tie-downs on shafts #1 and #2. The tie-up indicates rising shafts and the draw-down shows the position of the WEFT FLOATS in each of the four pattern sheds.

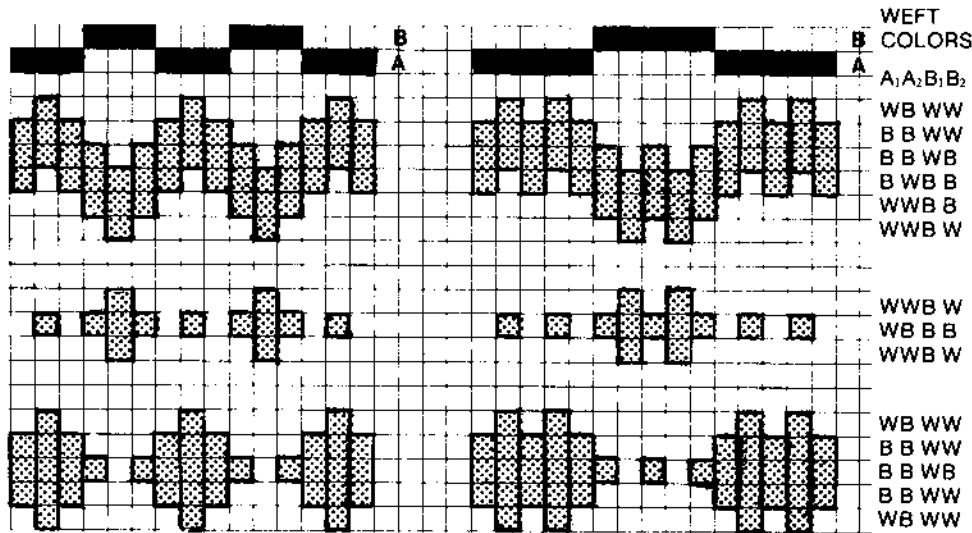


FIGURE 2. Two profile drafts showing possible variations of black and white wefts in the four pattern sheds. In the profiles, each square represents a "column" or three warp threads. In weaving, follow each weft color sequence for the distance required.

each. A half-unit yields the characteristic three-thread float, and the three-thread floats appear as uniform vertical "columns" on the face of the rug. See Photos 2 and 4. So pronounced is the column effect that we may label the columns as sub-units of the threading draft: block A contains columns A1 and A2 and block B contains columns B1 and B2. See Fig. 3.

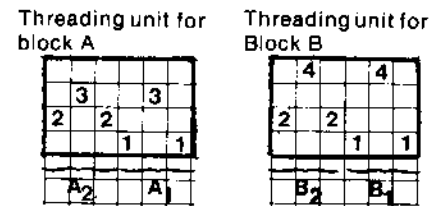


FIGURE 3. Six-end threading units. The half-units, or columns, are also indicated.

and two sheds for a pseudo-tabby used as a weft protector at the ends of the rug (there is no true tabby available). There are also two unbalanced sheds (3 shafts up/1 down and 1 up 3 down), but usually we will not have the additional two treadles to tie these up. So unless we are using a direct tie-up or are willing to retie when these sheds are required in the design, we may find it easiest to ignore the unbalanced sheds completely. In fact since the function of these sheds is to produce a uniform block all across the rug and its opposite block on the back, and since this effect may be achieved in simpler threading systems, why bother going to all the extra trouble to use the unbalanced sheds in Six-End Block Draft? The draft with its BALANCED sheds alone yields much richness.

For design purposes, it is useful to think of this threading in terms of "half-units" of three warp threads

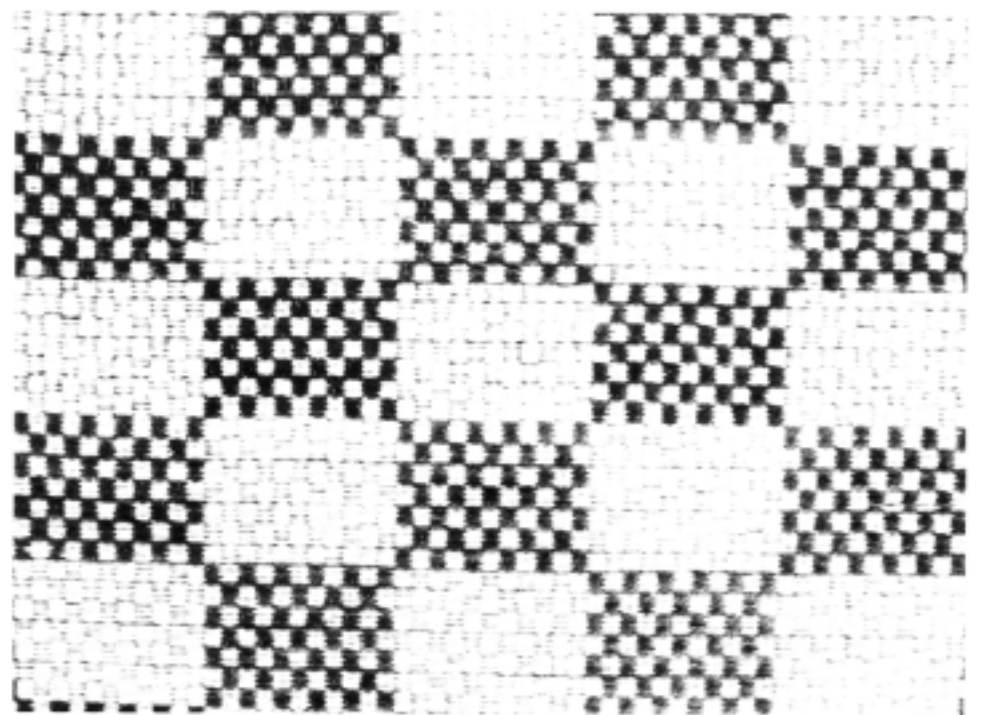


Photo 5. Detail of a rug with equal-sized blocks. The "ghosts" form an important secondary image between the blocks.

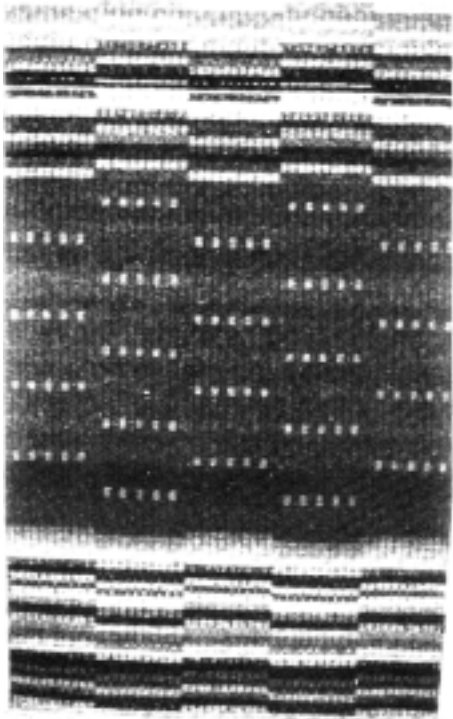


Photo 6. Equal-sized blocks in a 3' X 5' rug. Acid-dyed heavy wool singles. Another border-and-spot arrangement.

By manipulating columns, we may go beyond the blocky appearance of the weave and produce curves, waves, and other surprising effects. We may manipulate columns in two ways:

1. In the threading draft change the size of the blocks by varying the number of times a threading unit is repeated. It is best to end a block with a half-unit; in other words, if block A is begun with column A1, it is best to end it with A1. Of course other arrangements are possible, as long as the tie-down sequence on shafts 1 and 2 is maintained; please weave samples before committing yourself to a rug!

2. In the weaving, manipulate columns by choosing the color needed in each row as it is treadled. The columns are very plainly visible in the top layer of each shed, so it is a simple matter to determine what color is needed in each row.

In weaving a full sized rug, I always use a template or stretcher, although this is often not necessary in a sample. I also always use a floating selvedge (first and last warp ends threaded only through the reed, not through heddles; shuttle enters shed OVER floating warp on one side, exits UNDER float-

ing warp on the other side). The floating selvedge gives an acceptable edge in Six-End Block Draft where, because of the many shuttles used, chaos would otherwise ensue.

In the past I have used 10/6 linen as my warp material, sleyed 5 e.p.i. (20/10 cm) with floating warp ends doubled. This makes a satisfactory warp, but the warp fringe tends to be a little skimpy; I am now using 8/4 linen DOUBLED, also at 5 working e.p.i., with floating selvages tripled. This arrangement gives a fuller-looking fringe, and a slightly more substantial texture to the rug. I weave 5 or 6 rows of "pseudo-tabby" in linen at the beginning and end of the rug. When the rug comes off the loom, I finish it with a Philippine edge and braided fringe.

A sett of 5 working e.p.i. produces a weft float slightly over $\frac{1}{2}$ " (12.7 mm) long, which means that weft materials must be chosen with an eye to durability. I have successfully used the following: Swedish cowhair-type yarn, doubled; heavy 3- or 4-ply wool rug yarn; heavyweight coarse commercially spun singles; light- to medium-weight 2-ply mill-end carpet yarns, used three or four strands together and overdyed; and, handsomest of all, handspun variegated Karakul fleece. Only one weft material per rug, please; if you must break this rule, do it with discretion. Conscientious sampling will reveal how each weft yarn behaves with a warp/sett combination, and what sort of beat is required. But beware—a full-sized rug will require heavier beating to achieve the same density produced in a sample! A final hint: approximately 5 ounces of weft material is required per square foot of rug.

I owe a great debt to Peter Collingwood for introducing me to Six-End Block Draft in "The Techniques of Rug Weaving", and of course many rug-weavers are already familiar with this indispensable book. Oddly enough, I first encountered the weave as a balanced weave described by Klara Cherepov in her monograph, "Diversified Plain Weave"; but I never made the connection until a computer expert pointed out to me that these two weaves are similar in the multiple-

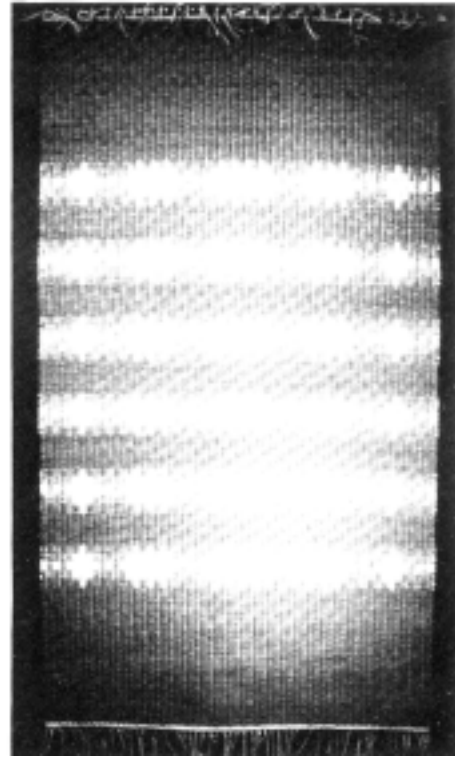


Photo 1. Rug (3' X 5') with six A-blocks and five B-blocks. Blocks are not of equal size. Wool mill-end rug yarns, overdyed with acid dyes.

shaft versions, except for the fact that the rug weave is weft-faced. I recommend the Cherepov study to anyone wishing to investigate Six-End Block Draft with more than four shafts.

And for those of you who feel that you have already exhausted the possibilities of this fascinating system, try shaft-switching. Shifting the ends threaded on shafts 3 and 4 will do the trick, although you may wish to transpose the threading draft in order to make the shifted ends more accessible. I haven't explored this by-way yet, so do let me know what you come up with!

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The Weaver's Journal; issues #16, 17, 18, 19, and 20 include articles on shaft-switching.

Alice Schlein lives with her husband and two sons in Greenville, S.C. She has a studio in her home and weaves every day from 8 a.m. until her sons come home from school. She is a member of the Greenville Artist Guild and the Piedmont Handweavers Guild and has served as president of each of them. She has shown her work in many weaving shows; most recently in February 1982 she has a one person show of handwoven rugs at Presbyterian College in Clinton, S.C.

RUG TECHNIQUES- AN OVERVIEW

by Martha Stanley

There is a dearth of weaves and weaving techniques which may be used for rugs, as a browsing through Peter Collingwood's *The Technique of Rug Weaving* will quickly indicate. Basically there are just a few criteria for a good rug weave. The interlacement and sett must be such that it is a very dense weave, usually either weft- or warp-faced. No element should be exposed on the surface for more than one half inch; one third inch floats or less produce a more lasting fabric. Thus complicated threadings with long surface floats are to be avoided. Plain weave—either warp- or weft-faced—is the most durable because it has the highest ratio of interlacement to warp-weft crossings. That is, every time a warp and a weft intersect the surface yarn is deflected to the opposite side of the cloth.



Double face twill rug, by Lynne Giles. 1977



Wedge weave rug, by Martha Stanley. 1973

Few would argue that the technique used in weaving a rug plays a significant role in that rug. The durability of the rug is related to the density of its weave. The weave structure contributes to the thickness of the rug. For example, double cloth and double-faced weaves produce thicker rugs than twills, and both are thicker than plain weave rugs. The surface texture of the rug and the way the light reflects off it are dependent in good part on the technique.

There ought to be a close relationship between the weaving technique and the design. If the weaver chooses a certain weave structure, the design ought to be in harmony with the specific paths the yarns take in the fabric. And if the weaver is committed to weaving a specific design, the technique must be chosen which not only expresses that design clearly but whose subtleties enhance it.

Too often the weaver does not allow the technique to play a contributing role in the design. It is as though this technique and that design accidentally ended up in the same rug, rather like cards being dealt in a card game.

The technique in effect presents limiting factors in designing. With a bit of sampling it is apparent that one technique gives strong crisp diagonals but poor horizontal and vertical lines. Another may give poor diagonals but

good blocks with sharp dividing lines between the blocks. Yet another may have soft muted boundaries between blocks. There are many weave structures which produce charming little motifs that delight the eye up close, but which must rely on special techniques to express the larger scale of designs to be read from a distance. Some techniques are more suitable for producing large bold designs, others are better for subtle understated patterns.



Saha weave rug, by Martha Stanley. 1973

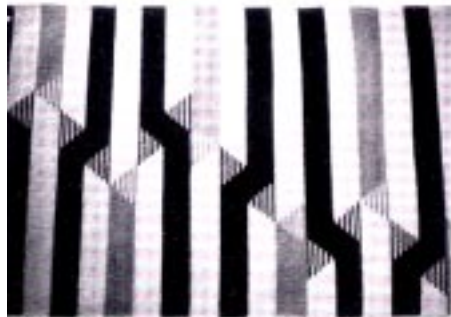
Each of these design aspects only becomes an asset to the complete rug if they are used sensitively and with an understanding of the dynamic interaction between technique and design. Design becomes more powerful when it is rooted in a technique. It rises to profound when the subtle complexities of the weave reverberate harmoniously in the design. In approaching any technique the weaver must pursue a vigorous search for the obvious as



Saddle blanket weave with soumak, by Bonnie Ray. 1980

well as for the subtle visual limitations which are inherent to that technique. These limitations will identify the directions for working out the design. They are to be properly understood and interpreted in order not to violate the clarity of the intentions. Design and technique must be wed in the rug. It is up to us to make the marriage significant.

Technique is as profoundly influential on the weaver as it is on the design.



Meet and separate technique, detail of rug, by Joan Smith. 1981

Let me elaborate on this a little as I think it is really quite important and often overlooked. Every rug technique has a different set of qualities about it which combine to form a temperament or personality. These include:

- The number of shafts it utilizes and whether the pattern or design of the rug is executed by controlling the threading and/or treadling of the loom or by the weaver's controlled

manipulations (as in pick-up techniques, for example).

- Whether the passage of the weft is from selvedge to selvedge, or is worked in smaller areas, which may or may not build up simultaneously as in tapestry weaves.

- How much color may easily be introduced without altering the basic weaving scheme. Shaft-switching most frequently uses two colors in any one horizontal area.

- How much the weaver is handling the yarns themselves during weaving. In shuttle-throwing loom-controlled techniques this involvement is minor; contrast this with pick-up where the hands are selecting warp threads, or tapestry and soumak techniques where the weft butterflies are continually handled.

- The degree to which the technique encourages spontaneity during weaving. Wedge weave lends itself more to this; in contrast, warp-faced striped rugs are essentially planned before the loom is dressed.

- The physical involvements in the weaving process such as the rhythmical response to the noise of the beater, a rug fork, or the treadles and harnesses moving; the interaction of threads, fingers and pick-up stick in a weave like Saha.

- The degree to which the technique limits you in designing with it. Some

weavers want as little restriction as possible and work in tapestry techniques. For others the challenge of expression is stimulated by the limitations of a technique and they let those limitations define the design in a positive way.

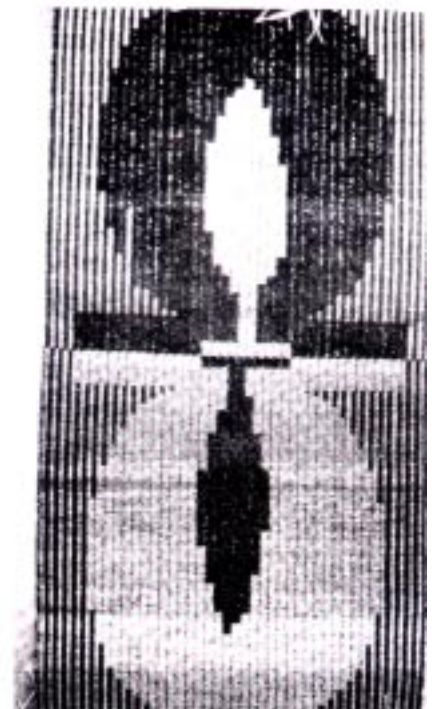
- Whether a given technique produces a sense of hastiness and frustration in the weaver or taps that reservoir of patience which each of us has for special activities and people.

- Whether the technique, once the fundamental processes are mastered and the rhythm flows, acts as an ally in achieving results we feel good about.

- Whether the design possibilities suggested by the technique are pleasing to us.

When the pace, rhythms and vehicles for expression of the technique are compatible with the temperament and inclinations of the weaver the whole weaving process is greatly strengthened. Rug weaving is slow, arduous work. Consequently we must seek out the technique(s) which stimulates the reservoir of patience within us, which weaves at a speed our sensitivities can keep apace of, and which allows us to develop that degree of boldness and subtlety we desire in a rug.

© Martha Stanley



Shaft-switched rug, by Martha Stanley. 1972

CARD WEAVING PATTERNS ON A 4-SHAFT LOOM

contributed by Polly Ohman

Cardweaving is a warp-face technique suitable for making long narrow bands. The structure of the fabric is warp twining. The warp ends are threaded through holes in cards (or tablets). Most commonly used cards are square with a hole in each corner. The weft yarn binds the warp threads in place and is hidden in the weaving. Each rotation or turn of the cards brings new warp threads to the surface, forming a new shed through which the weft yarn will pass. The four threads that go through the holes in each card twist as the cards are rotated, so if four-holed cards are used, the result is a four-ply fabric. The twisting, or twining of the warp threads is characteristic of- and unique to-card weaving.

The colorful and intricate patterns of card weaving can also be produced on a 4-shaft loom. The structure of the fabric of the loom woven patterns is warp-faced twill. The patterns are easier to execute than with card weaving. The warping is time consuming but the weaving is surprisingly fast.

Fig. 1 shows a typical card-weaving draft for 12 cards (numbered 1 through 12). Each card has holes called A,B,C,D and is represented by 4 squares as in Fig. 2. The squares are marked with color symbols which refer to the color of the warp thread to be drawn through the hole. I find that a large set of felt tip markers is invaluable. Arrows drawn above or below the draft indicate whether the individual card is threaded front to back or back to front.

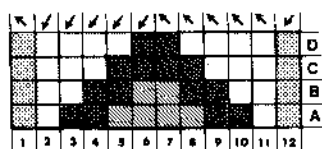


FIGURE 1



FIGURE 2

In order to loom-weave these drafts the 4 warp threads of each card are threaded on a straight twill as in Fig. 3, the color of A on shaft 1, the color of B on shaft 2, the color of C on shaft 3 and the color of D on shaft 4. When the

arrow points UP, the threading should proceed 1,2,3,4; when the arrow points DOWN, the threading should be 4,3,2,1. When arrows change direction, this indicates a turning point such as occurs in diamonds and chevrons. On a 4-shaft loom this is translated into a point twill as in Fig. 4. Note that one thread is dropped to avoid threading two ends on the same shaft. Drop the color which will least affect the pattern.

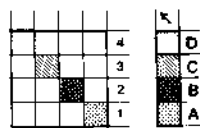


FIGURE 3



FIGURE 4

The shedding done by turning cards in card weaving is here done by means of tie-up and treadling.

Four turns forward, 4 backward becomes: Lift shafts 1+2, 2+3, 3+4, 4+1, 3+4, 2+3, 1+2, 4+1.

Four turns forward, 2 backward becomes: Lift shafts 1+2, 2+3, 3+4, 4+1, 3+4, 2+3, 3+4, 4+1, 1+2, 2+3, 1+2, 4+1, repeat.

Do experiment!

Fig. 5 is a very versatile draft, shown for card weaving and for 4-shaft loom weaving. It can be treadled in a variety of ways, e.g.

- 1+2, 2+3, 3+4, 2+3, 1+2, 4+1, repeat;
- 3+4, 4+1, 1+2, 2+3, 1+2, 4+1, 3+4, 2+3, repeat;
- 1+2, 2+3, 3+4, 4+1, 3+4, 2+3, 1+2, 4+1, repeat (4 forward, 4 backward);
- 8 forward, 8 backward;
- 6 forward, 6 backward.

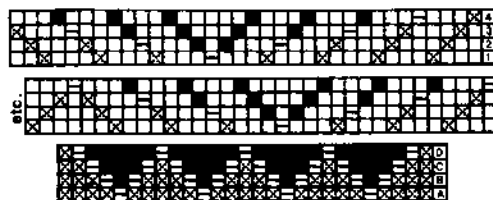
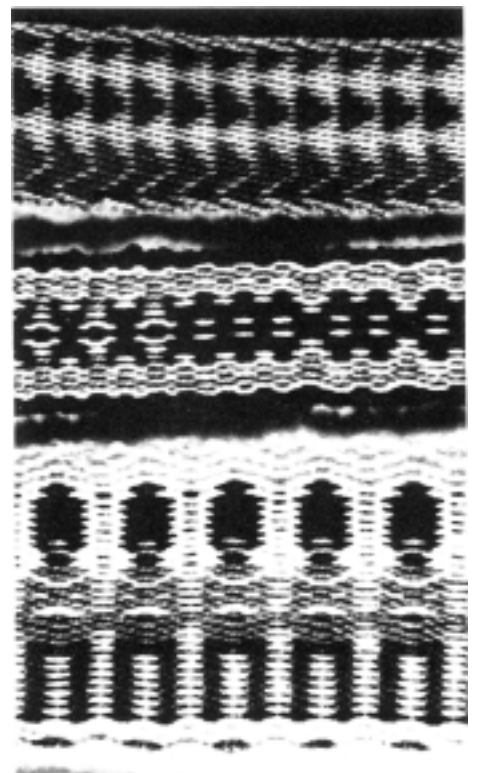


FIGURE 5



To select the colors for these patterns. I make a *palette* by tying an overhand knot in all the various 5/2 cotton I have, each piece about 24". From this group of threads I can wrap some around my fingers or white sections of cardboard. I come up with some interesting color groupings.

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Polly Ohman is a professional weaver in Malone, a rural town in northern New York state near the Canadian border. She has a studio in Ballard Mill, the town art center, where she teaches frame loom weaving and arranges her work around a busy family life. She is president of the Adirondack Foothills Weavers Guild, treasurer of the Adirondack Region Craft Professionals, and a member of the Empire State Crafts Alliance.



Handwoven basket; cane, koupou fiber, dyed sisal.

YOU ARE UNIQUE- THERE IS NO COMPETITION!

by **Barbara Hamaker**

Proficiency and expertise take time and effort, and a passionate devotion to perfecting a process to our own satisfaction. Those of us who continue to weave and try to juggle doing other things at the same time need to find a resting place for our fulfillment, and an appreciation of what it is we do with our lives, whatever it may be.

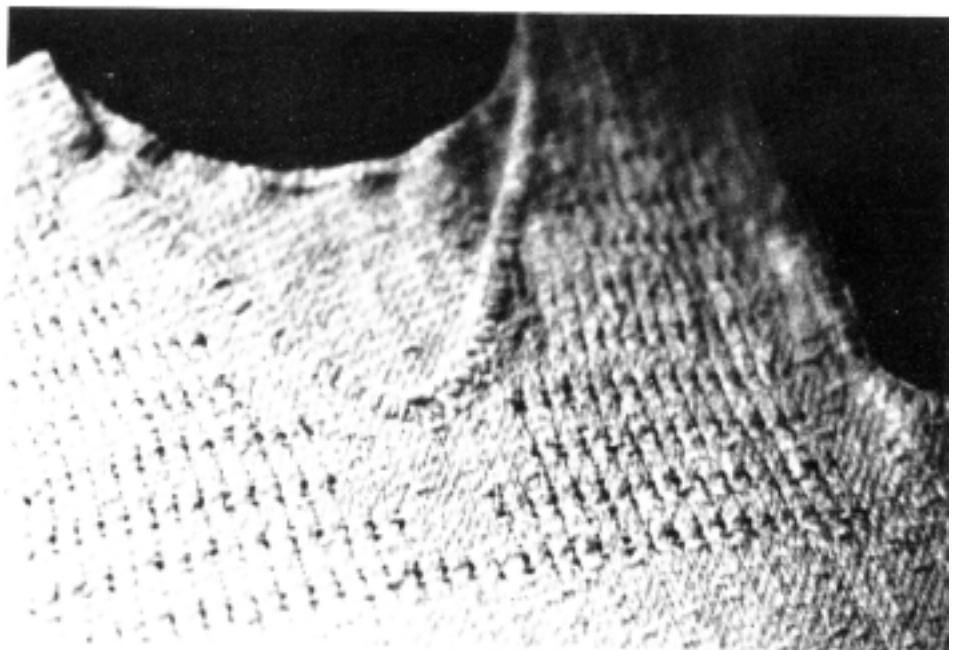
When I first began thinking about writing this article for *The Weaver's Journal*, I knew I wanted to convey the importance of our own uniqueness. I think perhaps it is our perspective, our point of view, our way of being in the world and the way we bring all that to our weaving that is most meaningful. In fact, that is what each of us brings to our weaving—ourselves!

As weavers, we all go through infinite hassles with knots and twists and tension problems, usually finding out the same answers separately. But we each do have our own unique ways of solving those same problems, because they're our problems, not someone else's. And I think part of the reason we like weaving so much is the extraordinary opportunity it offers us to find our own solutions—to be in charge.

Sometimes that very quality, that responsibility to produce some kind of

masterful product, gets in the way of enjoying the process. I find the stresses of trying to come up with wonderful weavings often defeat me before I start. How can we begin to enjoy the experience of our own process without pressure or comparison, choosing the moment that's right for us to begin? How can we go about catching the right step on the escalator . . . deciding which pitch to swing at . . . which wave to catch . . . which yarn to warp . . . which weft to weave?

How can we, in our everyday struggles and triumphs, find that quiet time to know what to weave, what colors and yarns to choose, what project to do? My life seems to have taken me through a series of confusing streaks between the office and home, between meetings and conferences, between the bedroom and kitchen and livingroom, and then various periods of "time-out" when I thought . . . now, I have five minutes to decide what to weave. But when I finally do find that patch



Detail of sleeveless blouse with leno; cotton and linen.



Cotton fabric for clothing; random multicolored warp, 12 epi.

of time, I don't want to weave (do I dare admit that?!). The timing is wrong. I wanted to weave when I was typing that report for my boss. Or I wanted to warp my loom when I had to do the laundry and shopping. Or I wanted to dye that cloth when I had to attend the guild meeting. And now, I'm sitting smack in front of my loom and it might as well be an erector set without instructions!

The inability to find the time to weave when you want to can be very frustrating, to say the least. Try making a list of "Things I want to do" and "Things I think I *should* do." Now look at the "should" list and ask yourself who or what is telling you that you "should" do it. I have often caught myself fighting an imagined villain that turned out to be nothing more than my own impossible expectations hanging over my head! Pay attention to the things on the list that make you feel stressed and pressured. Those are the ones that you may need to examine further to test their meaning in your life. And then pay attention to the ones that make you feel good, that you would like to clear the decks and get at now. Those are the ones that will be most helpful in leading you to fulfillment.

You may not need to lower your expectations, but only lengthen your time

span. Being too hard on yourself can only make the pressure worse. If you're attempting too many things at once, slow down and spread them out over a longer period.

The key for me is to weed out all the unnecessary projects and start to work on the one that excites me the most. Not the one I should do, but the one I want to do. That's the trick—and that's where the jewels are hidden! When I am doing something I truly care about, not only in weaving but in every area of my life, I'm amazed at what rewarding results I get. When I settle down enough to trust my own



Wall hanging; linen warp with goat hair, palm fiber and sisal weft. Techniques: bound weave and wedge weave

judgement, I make myself my own expert. I try not to be like or weave like anyone else, and I try to find myself in the process. It is extremely difficult to let go of all our "authorities" and stop being so self-critical, but I'm beginning to realize I can be my own authority.

When I get caught up in comparisons of myself with other weavers, I keep reminding myself how exquisitely devoted to their craft those weavers are, in order to be able to produce such works. I didn't choose to devote my energies in that way, so I didn't produce the piece. I am learning to honor my life and where I am choosing to put my energy. We are all struggling to be good weavers, mothers, fathers, career people, happy people. My fulfillment has come from honoring myself right where I am, not better or worse than anyone else . . . just different . . . and just as unique!

Barbara Hamaker is a California weaver. She has left a 15 year career in business to return to school and pursue areas that offer her more fulfillment as a creative person. In 1982 she will receive her masters degree in psychology, with a speciality in art therapy. She plans to use weaving in her work as a therapist. Barbara has been weaving ten years and is now working on her second book which will be published in the spring. Her first book, Clothing: A Handwoven Approach is in its third printing. She lives in Los Angeles, and continues to give workshops and lectures.

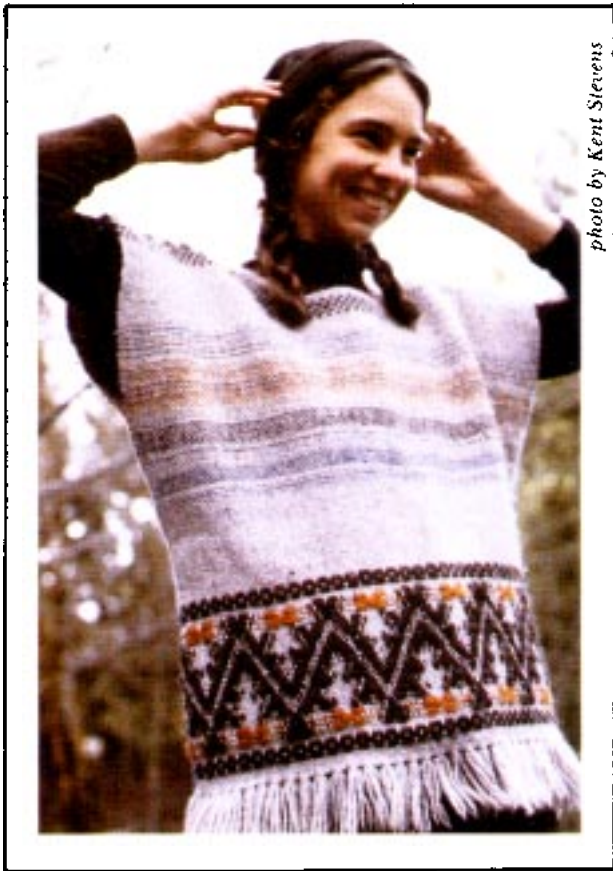


photo by Kent Stevens

A GUATEMALAN BROCADE BORDER

by Phid Simons

A Guatemalan weaver demonstrated traditional pick-up brocading at a weavers guild meeting in Lansing, Michigan in 1978. After watching her weave such intricate designs in fine cotton thread on a back strap loom, I was inspired to try some myself. Being already familiar with the backstrap loom, all I needed was the incredible wall hanging she sold me for \$25.00 and the book *Techniques of Guatemalan Weaving* by Lena Bjerregaard*, and I was off.

After weaving a small sampler in cotton and wool following instructions from the book, I felt ready to copy my favorite design from the Guatemalan hanging. Using pencil and graph paper I recorded the ups and downs and turns of the pattern wefts. The zig zag border on the wool tunic was woven following this graph.

My tunic was woven on a backstrap loom, but this single-faced brocade design can be woven on any two shaft loom arrangement. The weave structure consists of a tabby ground with the pattern picked in the upper layer of an open shed. The pattern weft floats on the surface and is tied down occa-

sionally, and turns on the front of the weaving. A separate butterfly is used for each design unit; the pattern weft does not extend from selvedge to selvedge.

I will describe in detail only the bottom border of the tunic. The chest stripes are simple tabby and selvedge-to-selvedge inlay stripes. The shoulder design is the "pie de chucho" design from page 66 of the Bjerregaard book.

WARP: 2 ply grey wool mill ends (from Henry's Attic)

WIDTH IN THE REED: 26.6" (66.5 cm).

SETT: 10 epi (40/10 cm).

WEFT

tabby: same as warp.

pattern: 2 ply wool used fourfold (from Cum). The pattern weft should be twice as thick as the ground weft.

WEAVING INSTRUCTIONS: The stripes on either side of the main border pattern consist of three rows of selvedge-to-selvedge pick-up inlay:

Row 1 In an open shed first throw a shot of tabby weft. In the *same shed*, using a pick-up stick long enough for

the whole width, pick up every third thread in the upper layer of the shed (every sixth warp thread is picked up). After picking the pattern all the way across the warp, throw a shot of pattern weft from selvedge to selvedge in the pick-up shed.

Row 2 Change sheds, throw a shot of tabby weft, then pick up every third thread in the top layer of this second shed. Make sure that the thread picked up in this shed is centered between the threads picked up in the first row of the pattern. After picking this pattern row all the way across the warp, throw a shot of pattern weft in this pick-up shed.

Row 3 Repeat row 1, picking up the same threads picked up in row 1. Weave three or four shots of tabby and you are ready to start the main pattern.

The instructions for weaving the pattern will refer frequently to the graph. A few points of explanation about the graph and general rules for pick-up brocading are necessary before proceeding.

GRAPH EXPLANATION

O = warp thread *picked up*. The pattern weft goes under all O warp threads, which means that these warp threads show in the design. It might be easier to follow the graph if you fill in the O's with a bright colored pen before weaving.

X = warp thread is *not* picked up. The pattern weft floats over all X warp threads, which means that the pattern weft shows.

Arrows indicate weft turns on the surface.

The pattern is picked in the upper layer of an *open* shed. Therefore the X's and O's are in the *spaces* between vertical lines on the graph for one row of pattern, and *on the vertical lines* for the next row. There are no symbols on the graph for the warp threads in the lower layer of the shed, as they are *never* picked up. When the symbols are *on the lines* you should be in the *odd shed*, when they are *in the spaces*

*Lena Bjerregaard, *Techniques of Guatemalan Weaving*. (Van Nostrand Reinhold, New York, N.Y., 1977).

you should be weaving in the *even shed*, as defined below.

Two definitions are important for following this graph and the instructions:

Odd Shed—the shed in which the farthest right-hand thread is *up*. X's and O's are on the vertical lines of the graph for the odd shed.

Even Shed—the shed in which the farthest right-hand warp thread is *down*. X's and O's are in the spaces between vertical lines on the graph.

The thread count for the starting row is for 266 total warps. You would have to adjust your margins and/or the number of repeats of the pattern if a different number of warps is used.

GENERAL RULES

Always throw a shot of tabby ground before picking the pattern.

All pattern picking is done in an *open shed*. All instructions and thread counts refer to the number of threads in the *upper* layer of the shed only.

All pattern *picking* is worked from *right to left*.

will describe how to weave the pattern including the filler design.

Rows 1-3 are the most complicated because you must count accurately to start the pattern, and because you are weaving the filler pattern in addition to the tabby ground and main pattern.

Row 1 Even shed

A. Ground: throw a shot of tabby weft.

B. Filler pattern:

1. In the same (even) shed, starting from the right, pick up 16 top threads. (These 16 are not shown on the graph because the main design is woven over them. You are really laying the pattern weft in the even shed for these 16 threads.)

2. Skip 2, pick up 2, skip 2, and pick up 13 (these 13 also are not shown on graph.)

3. Repeat step #2 five more times, continuing across the warp from right to left. Pick up three extra threads at the left margin (end with 16 picked up rather than 13).

4. Throw the pattern weft for the

filler design (gold in the tunic) in this pick-up shed from one selvedge to the other.

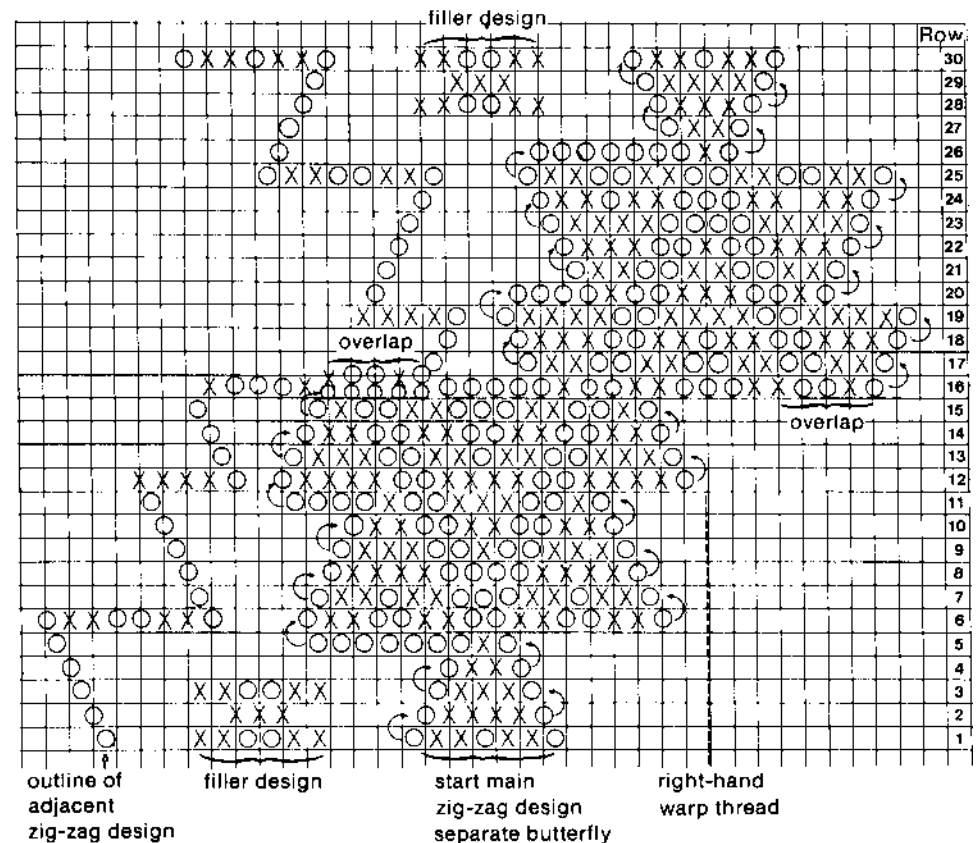
C. Main design: the main design is woven over the area between filler designs.

1. Make 7 butterflies of the color of the main design (brown in my tunic), about three yards (2.7 m) long.

2. In the same shed (even) pick up the first 7 warps, skip 2, pick up 1, skip 2, and pick up 1. Lay the tail of your butterfly under the first 7 picked-up warps (it won't show much), and pass the butterfly under the remaining picked-up warps. Leave the butterfly hanging on the front of the weaving.

3. Continue across the warp from right to left, burying the tail of each butterfly under the 4 top threads to the left of each filler design, then skipping 2, picking up 1, skipping 2 and picking up 1 (see the graph). Remember to leave all butterflies hanging on the front of the weaving.

Change sheds



INSTRUCTIONS FOR WEAVING THE BORDER PATTERN

In the Guatemalan design the first three rows of the main pattern consist of two patterns in two colors. One color runs selvedge to selvedge and is picked up to create a fill-in design between the starting triangles of the main zig-zag pattern. For simplicity one could leave out the "filler design" and weave just the zig-zag if desired. I

O - warp thread picked up
X - warp thread not picked up

Row 2 Odd shed

A. Ground: throw a shot of tabby ground.

B. Filler pattern:

1. Pick up 18, skip 3. These 3 skipped threads should be centered over the two threads *picked up* in the center of the filler design in row 1.

2. Continue across the warp, picking up 16 and skipping 3, with 17 picked up on the left-hand margin. Always check to be sure that the 3 skipped warps are centered over the 2 picked up warps in the first row of the design.

3. Throw the filler weft from selvedge to selvedge.

C. Main design: From the graph you can see that the main design starts out with a triangle form. In row 2, the pattern weft floats from left to right and is *not* tied down in the center as it was in row 1.

Pass each butterfly under the warp thread just to the right of the left-hand picked-up warp in row 1, over 4 top threads and under the warp just to the left of the right-hand thread picked up in row 1. The weft turn on the surface forms part of the design. Remember to leave the butterflies hanging in the front.

Change sheds

Row 3 Even shed

A. Ground: throw a shot of tabby ground

B. Filler pattern: Row 3 of the filler design is identical to row 1. Repeat steps B. 1-4 of row 1. End your filler weft after row 3.

C. Main design: Continue making a triangle with each butterfly. This time the pattern weft goes from right to left, and floats over 3 top threads (refer to graph).

Rows 4-15

By now you should be able to follow the graph. After throwing the tabby ground, pick up all "O" warps and lay in the pattern weft for each butterfly. Notice that the pattern widens in rows 5 and 11. The pattern weft is hidden under the extra warps picked up in these rows. Notice also that the pattern weft never floats over more than 4 top layer warps at one time.



Guatemalan inspiration.

Row 16

In row 16 the butterfly moves to the right and finishes the top half of the zigzag formed with the butterfly on its right. To accomplish this, there is some overlapping of pattern weft. On the left, the pattern weft hides under 10 warps before coming to the surface to form the pattern. The butterfly to the left will be woven over this hidden weft. It is *very* important to pick your pattern units from the right to the left, so that the hidden weft is in place before the pattern unit from the left is woven over it.

In this row you will end the butterfly on the right-hand side of the weaving, hiding the tail under the 10 picked up warps. From this point on you'll be working with only six butterflies. You'll have one half of a zig or zag on either margin of the weaving.

Rows 17-27

These rows are very much like rows 4-15, but upside down. They should be easily woven by following the graph.

Rows 28-30

The filler pattern is again woven in, similar to rows 1-3.

Row 28 filler pattern

In the odd shed, from right to left, pick up 7 top threads, skip 2, pick up 2, and skip 2. Continue across the warp picking up 13 warps between each filler pattern, as in rows 1 and 3. Weave row 28 of the main design.

Row 29 filler pattern

In the even shed, pick up 8, skip 3, then continue across picking up 16, and skipping 3. As in row 2, the 3 skipped warps should be centered over the 2 picked up warps in row 28.

Row 30 filler pattern - same as row 28.

Weave three or four shots of tabby, then the three rows of selvedge-to-selvedge pick-up design described earlier, and you have completed your border.

FINISHING

My tunic was woven with a loom-shaped square neck. After hem stitching, I washed the fabric in the machine in warm water, gentle agitation. This treatment softened the fabric and also felted the design. The long floats in the design (over 8 warps, about $\frac{3}{4}$ of an inch in some places) were strengthened by the felting.

The side seams were overlapped 2 inches (51 mm) and handstitched. The top layer was turned under $\frac{1}{2}$ inch (12.7 mm) before stitching, so that the pattern would match at the seam.

photo by Kent Stevens



Phid Simons is a weaver in Rhododendron, Oregon and a member of the Portland Handweavers Guild. She teaches workshops in basic backstrap loom weaving and in weaving Tarascan Lace. She is currently at work on cotton blouses, combining 4-shaft weaves with woven-in Tarascan lace accents. Phid is co-founder and president of Wy'east Artisans Guild, a non-profit organization of artists and craftsmen in the Mount Hood Corridor.



DOUBLE HANDLED MELON BASKET

by Marie E. Graser

The Melon Basket was a favorite basket of the early settlers and the American Indians on the Eastern coast. It was a durable and practical basket that has retained its popularity. It has many variations and names according to its use and locale. Some of the variations are known as hen basket, egg basket, potato basket, hip basket, fanny basket, shoe basket and gathering basket. It was made in both splints and wickerwork and is still being made in both traditions today.

A contemporary variation of the Melon Basket is this small double handled version. It can be woven of natural fibers or commercial reeds. A sharp utility knife, a pair of wire cutters, and an awl (or ice pick) are the only tools needed. A set of "C" clamps is helpful. You will need 3-9" (23 cm) hoops which can be of bamboo, oak or of similar material. The ribs are made of #6 round reed. The God's Eyes can be woven from fine chair caning or #2 round reed. For the weavers, you can weave with chair cane, round reed, fine sea grass, sisal cord, natural raffia, data palm stems, leaves of iris, gladi-

ola, fan palm, New Zealand flax, cymbidium orchid or similar materials. Jute, although colorful and inexpensive, is a very weak fiber and is to be avoided.

To form the basket handle, wrap 2 hoops together for 3" (76 mm) or more with raffia, sisal, chair caning or #2 reed. Lay the end of the weaver along one of the two hoops and wrap tightly and closely together. Tuck the end back into the wrapped area to finish it off. (Fig. 1). If you use raffia, thread it

on a needle to tuck in the end. If you use reed or chair cane, point the end with your knife and push into place. The reed or cane must be wet to be used. Soak the reed for about 15 minutes. Pat dry with a terry cloth towel and cover the reed with the towel for a few minutes to mellow.

Insert the third hoop inside the handles to form the rim of the basket. Drill a small hole into each joint of the rim to the handle to accommodate a small nail. Glue and add the nail. After the

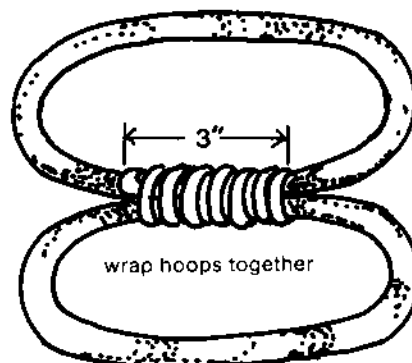


FIGURE 1

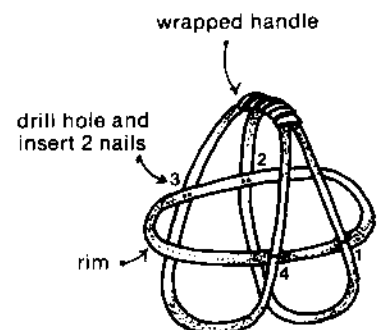


FIGURE 2

glue is dry you are ready to weave the four God's Eyes over each of the four junctions. (Fig. 2).

To weave the God's Eyes, tuck an end of the weaving material into the joint between #1 and #4. Take the weaver under #1 going towards you, over #1 and at a diagonal towards #2. Go around #2 and over to #3 on a diagonal. Go around #3 and over to #4 on a diagonal. Continue on to #1, then #2, etc. until the God's Eye is about 3" in size. Tuck the end of the weaver into a wrapped area of a hoop and glue. Since the slope of the God's Eyes is sharp, it is helpful to glue the last row of weaving to the hoops. (Fig. 3).

To make the basket ribs, cut 15 pieces of #6 round reed 14" (36 cm) long. They will be trimmed to size later. Soak in hot water for 25 minutes with a terry cloth towel, pat off the surplus water and cover for a few minutes to mellow. Start in the center area between the God's Eyes. Bend 7 of the ribs between the rims on either side. They should touch the table at the center point. Space evenly and glue. Tension will hold them in place. It helps to clamp them in place, until the glue dries, with small "C" clamps or snap clothespins if your hoops are not too thick. To keep the spacing of the ribs equal at the bottom, while the ribs are drying, take a yard length of string, leaving a 10" (25 cm) tail, tie to one hoop at the bottom. Loop over each rib firmly across to the other hoop and tie, leaving a tail on the other hoop. The tails will be available to tie in the side ribs. (Fig. 4). Bend four ribs into place on each side. Glue, clamp and tie



into place as you did for the center. They will be angled quite sharply. (Fig. 5).

Choose your favorite weaving material. Start weaving a plain over-and-under weave or twill between the God's Eyes (or leave unweaved). Then continue weaving past the God's Eyes up and around the rim, then back to the other side. Continue weaving back and forth until you run out of weaver then go to the opposite side of your basket and repeat your weaving. Keep

alternating sides every few inches as you weave. This keeps the basket in balance. As you get near the center you may find pie shaped wedges left from the roundness of your basket. Fill in by weaving back and forth in the unweaved areas.

After your weaving is dry, you are ready to fill it with your favorite materials and enjoy.

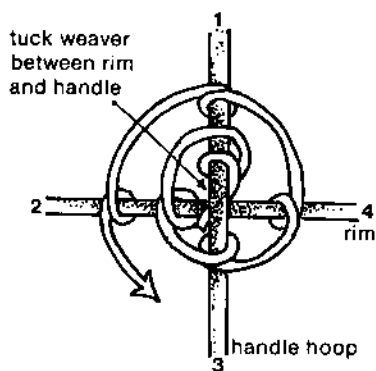


FIGURE 3

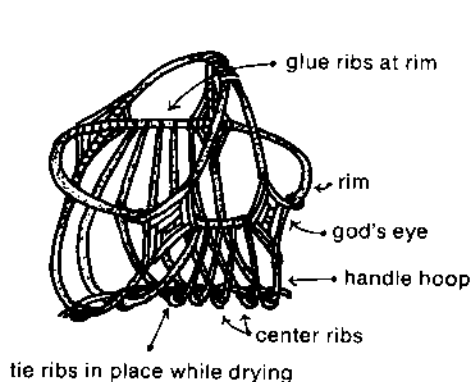


FIGURE 4

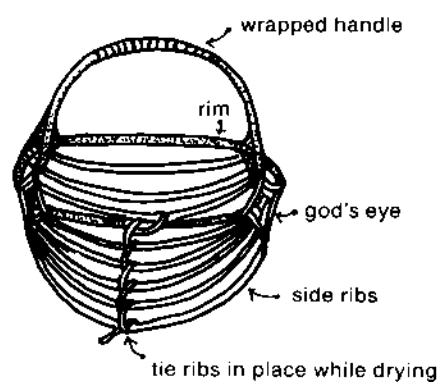


FIGURE 5



DOUBLE WOVEN HOUSE BOOTS

by Margaret MacDonald

These boots were the result of a successful experiment in double weave. I call them my sky boots because the colors and textures remind me of the sky and make me feel like I have clouds on my feet.

The loom set up for the weaving of the boots is a little complicated but it results in a minimum of finishing. A six-shaft loom is required.

The directions are given for boots which fit up to size 7.

WIDTH IN THE REED: 32" (77 cm).

REED: 12 dent.

SETT: 24 epi (100/10 cm), one end of each color A and color B in each dent.

LENGTH OF THE WARP: 61" (155 cm) (includes 20" (51 cm) loom waste). Note that there can be quite a bit of take-up in the tube sections and therefore allow for 25% shrinkage when planning the warp.

THREADING: See Fig. 1.

Four shafts are used for the sides of the boots and two for the sole. During the threading draw one warp thread

through one heddle for the sides of the boots and two warp threads through one heddle for the sole. This will give you a heavier fabric in the middle which I feel is needed due to the extra wear in the sole area. The threading pattern is 1,2,3,4 for the 13 $\frac{3}{4}$ " (35 cm) side sections and 5,6 for the middle 4 $\frac{1}{2}$ " (11.5 cm) sole section. 1 and 3 are in the warp color A, 2 and 4 are in the warp color B and 5 and 6 are double threaded with one of each color.

BEAMING: It is a good idea when beaming the warp onto the warp beam, to either beam the center section of warp on a second beam or to tie it to a separate rod that can be adjusted independently. I tied a $\frac{1}{2}$ " x 8" (12.7 mm x 20 cm) dowel to my warp beam with two heavy strings that could be tightened if needed. There is a definite

change in the tension on this section as you weave because the tubes at the sides are stuffed as you go along. This can make the tension on the sole area loose. Also, you will need to put the middle section under more tension than the adjacent warps so that the weft can be beaten tighter to give you a heavier fabric for the sole.

TREADLING: The treadle tie-up is as follows:

Tabby: 1-3-5- and 2-4-6

First Tube: 1-5, 1-3-2-6, 3-5, 1-3-4-6

Second Tube: 2-6, 2-4-1-5, 4-6, 2-4-3-5

WEAVING INSTRUCTIONS: Begin by weaving 1"-1 $\frac{1}{2}$ " (25-38 mm) in tabby (see Fig. 2). To start the tubes which form the sides of the boots, weave with the treadling sequence as follows: 1-5, 1-3-2-6, 3-5, 1-3-4-6. Use one shuttle. The first shot will be weaving the outside of the boot and across the sole, the second shot will weave the inside and the sole. When the first tube is as wide as you want it (I would suggest no wider than 2" or 51 mm), open on tabby shed 1-3-5 and stuff tube with quilt stuffing or clean fleece. To close the tube, change to

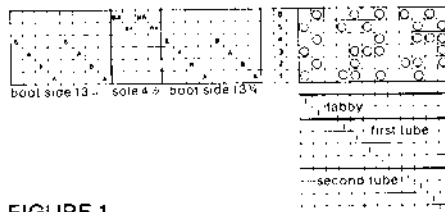


FIGURE 1

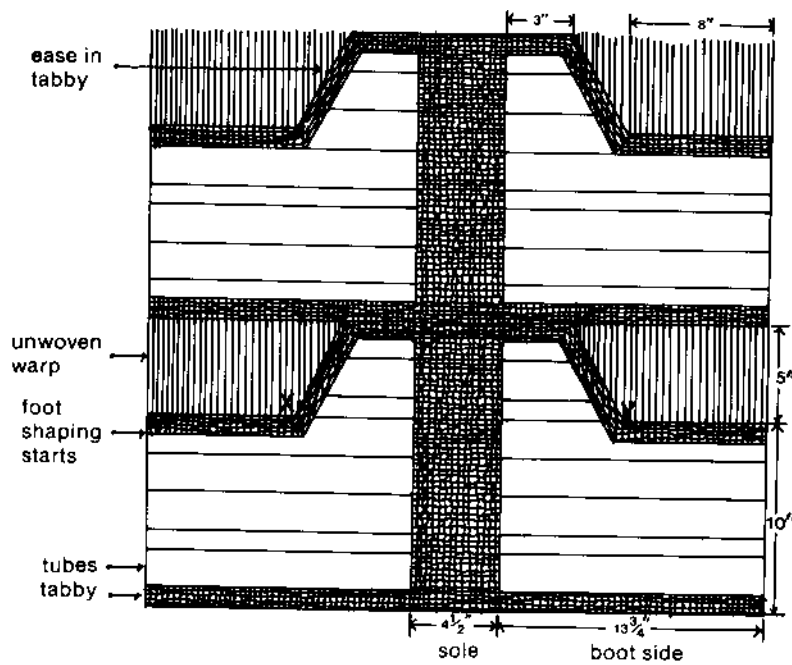


FIGURE 2

tabby shed 2-4-6 and make sure that all the little bits of stuffing are in the tube. I used a fork to poke in the extra bits. Beat. Start treadling sequence for the second tube as follows: 2-6, 2-4-1-5, 4-6, 2-4-3-5. This will raise the second warp color; keep weaving until you reach the desired tube width. Weft color can change anytime; either use one color per tube or several. The width of the tube can vary also although too great a variety in width will result in uneven insulation. Continue tubes for about 8" (20 cm).

To finish boot sides and start the foot shaping, there is 1" (25 mm) of complicated weaving. On the first shot, treadle tabby 1-3-5 and pass the weft through the shed and up to the point where the top of the foot starts about 8" from the selvedge. Treadle for the tube and pass the weft across the sole and to the point where the top of the

foot ends on the other side (8" from the opposite selvedge). Treadle tabby 1-3-5 again and pass weft to the selvedge. The second shot reverses this process; that is, you raise second tabby shed, pass weft, treadle for the tube, pass weft across the center section and finally raise second tabby shed again passing the weft to the opposite selvedge. Continue this technique for 1", decreasing the foot width a little as you go (see Fig. 2) The reason for doing this section as described is to seal the final side tube and provide enough flat fabric with which to make a seam.

Continue foot shaping for 4" (10 cm) using tube treadlings and decreasing the foot width to about 2 1/2"-3" (6.4-7.6 cm) on either side of the sole. Finish weaving with 1" of tabby that will contour the boot toe, sole and that portion of foot length not already covered by a tabby strip (X to Y). This piece will

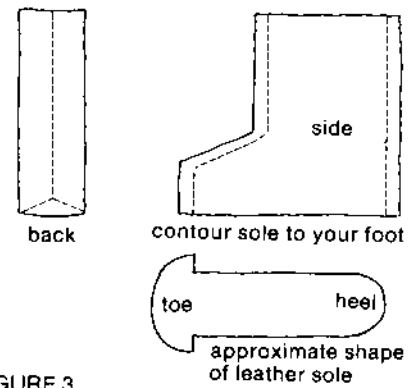


FIGURE 3

have to be eased down against the foot length as you weave it. I used a fork as a beater on this part because it is almost like using a tapestry technique since you are working around a contour rather than beating down flat. Again, it is necessary to do this in order to provide enough fabric for a seam.

At this point, check to make sure that tension is ready for weaving the second boot. If needed, stuff rags into unwoven warp area and readjust second beam or rod. Weave the second boot as you did the first.

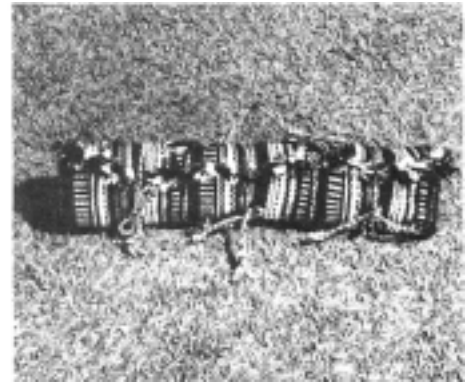
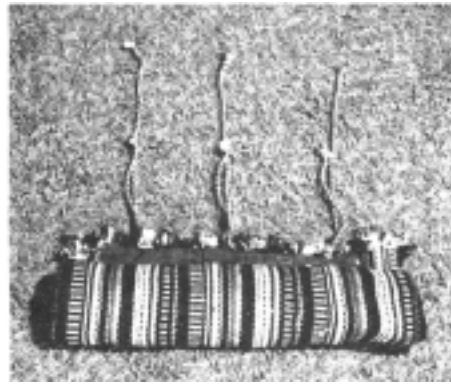
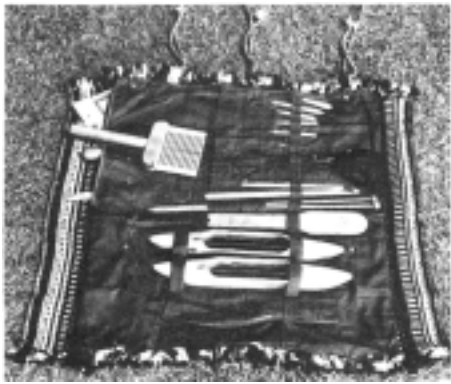
When finished, remove the boots from loom and cut apart. Using a sewing machine, zigzag unfinished edges. On the wrong side, pin seams making sure that the sole is flat and that it contours to the edge of your foot. Machine stitch contours and seams close to the tubes. Turn under excess fabric and hand stitch to give a smooth finish. Turn boots right side out. Cut two pieces of soft leather large enough to cover the sole and top of the toe. Put extra stuffing between woven sole and leather sole and pin together. Using an awl and waxed thread, stitch leather to boot. You are finished!

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A TOOL KIT FROM INKLE BANDS

contributed by Dolores M. Hinson

For travel, for the studio, for classes and workshops, this 18" (46 cm) long tool kit is the handiest way to keep your equipment from getting lost or mislaid. The contents can be checked at a glance and a favorite tool will never be left behind.

It is made with inkle bands and remnants of various yarns. The tool kit shown can be altered to hold any amount, sizes or assortment of weaving tools.

MATERIALS

Inkle bands

Two 3" (76 mm) wide bands, 21" (53 cm) long.

Three 6" (15 cm) wide bands (or six 3" wide bands), 21" long.

Six snaps

Three braided ties, 28" (71 cm) long.

One braided handle, 3/4" (19 mm) wide and 8 1/2" (22 cm) long.

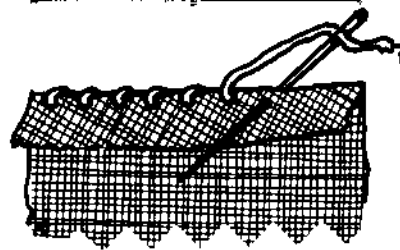
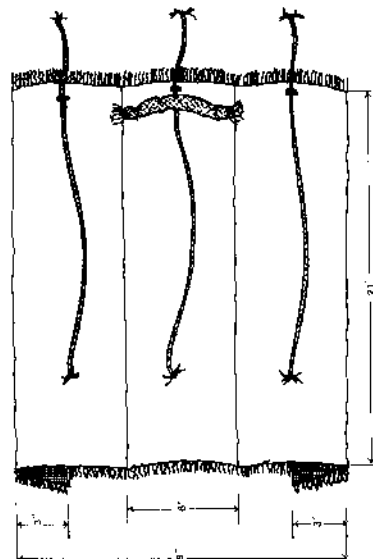
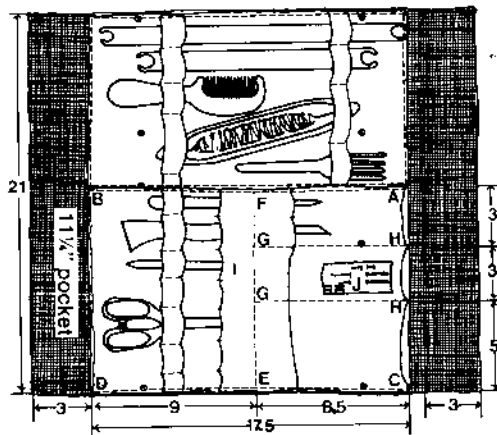
1/2 yard (46 cm) of 36" (91 cm) wide cotton cloth.

One 3" x 5" (76 x 127 mm) piece of flannel.

CONSTRUCTION OF THE BAG

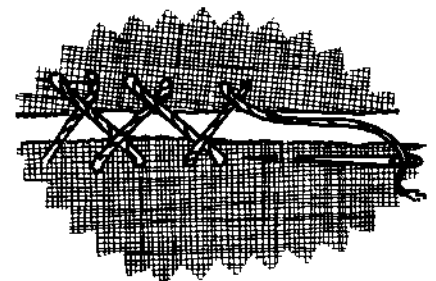
To determine the finished size of the kit arrange your tools as shown on a piece of paper and mark off the shapes. Thus if any of the tools has an odd shape it can be accommodated, and the size of the kit adjusted accordingly.

The three 6" wide bands are sewn side by side in wool with an 'X' stitch. The two 3" side bands are sewn to the main piece with an overcast stitch so they will lay flat over the other bands. The lining is cut in two sections. Half is



overcast stitch

sewn on all four sides on half of the main piece to give a firm backing to hold the larger heavier tools. The other half has the two long edges hemmed and then is sewn to the other half of the main piece at the other two sides (AB and CD) and also down the center (EF). One side of this section has two seams sewn from center to edge (GH) and thus this side of the lining has three small pockets on one side and one large pocket on the other. Cut three or more pieces of cloth and make 1" tubes of them. These must fit loosely enough so the tools may be inserted between rows of stitches forming loops but tightly enough so the tools will not fall out. A wider band (I) on one side will hold the points of picks and scissors. The square of flannel (J) should only be sewn to the pocket on two ends so needles may be inserted easily. Sew the snaps to hold the side bands to the lining.



'X' stitch

The ties and handle should be sewn firmly in place as shown. The kit is closed by rolling loosely from the other end. When the ties are tied in a firm bow-knot none of the tools can slip out of the bundle.

SPICE DYEING

by Tracy Reesor

My first experiments in Spice Dyeing came in my last year of study at Western Michigan University. Being a full time student, money and time were limited. So I experimented with many methods to produce color in natural fibers, and found Spice Dyeing an economical alternative. The products used in Spice Dyeing are readily available, reasonable in price, and most importantly are not dangerous to your health. Materials needed for Spice Dyeing can be found at your local food store.

Commercial spices found in local supermarkets will provide sufficient color. Bagged spices found in health food stores and gourmet shops will be less costly and tend to give clearer color. Some spices when simmered in bulk will give strange odors, but these odors are not toxic.

The first step involves stripping any grease and dirt found in natural wool products. Lukewarm water and ordinary dish soap will remove residue.

In laymen's terms, you will be using vinegar as a mordant and neutralizer for wool, jute, linen, and cotton products.


In all dyeing processes it is important never to boil wool. I have found that long periods of simmering do not affect the chemical make-up of natural products. Enamelware is preferred because it does not disrupt quality of colors. Always use wood utensils to agitate wool.

At this point I would like to add that each dye bath results in a different intensity, so enough wool should be dyed to complete your project. The following dyes have been tested for permanent and vivid color: sumak: medium brown-green; turmeric: bright yellow-gold; cranberry or beets (canned): soft pale pink; coffee (grounds or instant): soft brown. I am now testing blueberries: medium blue; and mustard powder: deep gold. These dyes have no effect on man made fibers.

The following Spice Dye recipe should give you a good idea of time, cost, and materials needed for dyeing wool, jute, linen, and cotton:

Chili powder, 2 oz. (total cost - \$4.00)

1. Wash wool using ordinary dish soap, rinse well in luke warmwater.
2. Add 4 cups vinegar to 2 gallons water, simmer wool for 1 hour.
3. Do not rinse wool after vinegar stage, squeeze excess water from wool.
4. Disperse spice in clear water and add wool.
5. Simmer wool in dye bath for the average of 4 hours or 1 hour longer than desired color.
6. Turn heat off and let dye bath and wool come to room temperature. (About 6 hours or overnight)
7. In lukewarm water add 2 T washing soda and carefully wash wool.
8. Do not hang wool, cotton, jute or linen near direct heat.

I think you will find Spice Dyeing very rewarding. Don't be afraid to try other spices which you think will make a good dye bath. Basically all spices will give some color to natural fibers. Just use the above steps to neutralize and wash wool. Spice Dyeing will add a new dimension to all craftspersons working with natural fibers. 

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MULTIPLE SHAFT WEAVING

2-TIE FOUR-END BLOCK DRAFTS

There are many 2-tie drafts to explore and one way to classify them is by the number of warp ends in each threading unit of the draft. A 2-tie 4-end block draft has two tie-down shafts (shafts 1 and 2) and the other shafts are referred to as pattern shafts. A single threading unit has 4 warp ends but these units may be repeated ad lib in order to form threading blocks.

There are two basic types of 2-tie 4-end drafts. They are illustrated in Figs. 1a and 1b. The first type is known as Summer and Winter, the second is double Summer and Winter or 2-tie twill.

PART I - SUMMER AND WINTER DRAFTS

UNITS. Fig. 2 shows the Summer and Winter units for the 6-blocks that can be woven on a 8-shaft loom. Each unit has one pattern shaft.

DRAFTING. One can either start from a design and figure out how to thread the loom to weave it or start from a threading draft and figure out what kind of designs could be woven on a certain warp.

PROFILE DRAFT. Fig. 3a shows the profile draft for the threading of Fig. 1a in which each unit has been repeated twice. There are as many different blocks as there are pattern shafts.

The threading is derived from the profile by substituting units for each square of the draft and by adding one extra warp end on shaft 1 at the end of the draft in order to balance it.

PATTERN. Fig. 3b shows a pattern that conforms to the profile above. By scanning the pattern from right to left one can count 6 different blocks, each 2 units wide. The pattern is drawn directly under the profile with the blocks perfectly lined up.

TREADLING BLOCK. The design of Fig. 3b has 6 different treadling blocks, one for each area where the pattern appears in a new combination of threading blocks.

TIE-UP. Each one of the 2 left treadles is tied to one of the tie-down shafts. The other treadles are tied to combinations of pattern shafts. For each treadling block there is a treadle which lifts the pattern shafts of the background area where the weft will make its floats on the wrong side of the fabric.

THREADING VARIATIONS. Some liberties may be taken with the rigidity of Summer and Winter drafts. Fig. 4 shows a draft with irregularities in the threading and treadling. Notice that this draft has partial units.

WEAVE STRUCTURES

2-tie 4-end draft with plain weave ground

Two additional treadles are needed to weave the ground on which the pattern weft will be brocaded: *a* is tied to the two tie-down shafts and *b* is tied to all the pattern shafts. Alternating *a* and *b* will give plain weave (tabby). Summer and Winter is woven by alternating a tabby pick and a pattern pick. To weave Summer and Winter on a balanced plain weave ground, 4 tabby picks and 4 pattern picks must correspond to one square of graph paper.

There are several methods of treadling Summer and Winter depending on the treadling of the tie-down shafts and on the order of the tabby picks. See chart 1, and Fig. 5.

P stands for the sum of all the pattern shafts of the background area.

Method I is called "in singles" and is woven by alternating the tie-down shafts.



Methods II and III are called "in pairs" and are woven by using the same tie-down shaft twice.

Method IV always uses the same tie-down shaft.



Fig. 6 shows why it is important to select the right method for the design. Method II gives a better contour to the heart shape.

Fig. 7 gives the complete drafts for a 8-shaft and 6-shaft tablecloth pattern.

Polychrome Weave

All the pattern blocks of Summer and Winter do not have to be woven with a single color pattern weft as shown in Fig. 8. In this design, the treadling block X shows color  in threading block A, color  in block D and E and background in blocks B and C.

To weave polychrome, replace each pattern pick in chart I by two complementary pattern picks *A* and *B*, using the same tie-down, but for pick *A* lift the pattern shafts where color *A* does not appear in the design and for pick *B* lift the pattern shafts where color *B* does not appear. The sequence—tabby pick, *A* pick, *B* pick—has to be maintained throughout the weaving even in treadling blocks where *A* or *B* or both do not appear in the design.

To treadle block X of Fig. 8, weave color  by lifting a tie-down shaft plus shafts 4,5,6,7 (all but 3), weave color  by lifting the same tie-down shaft plus shafts 3,4,5 (all but 6 and 7).

2-tie 4-end draft woven as weft face boundweave

When the interlacement of the pattern weft and the warp is not bound by plain weave picks the fabric has to be bound by other means. In weft face fabric each pattern pick is bound by its opposite. This is woven with a weft

I	IIa	IIb	IIIa	IIIb	IVa	IVb
a	a	b	a	b	a	a
shafts 1+P	shafts 1+P	shafts 1+P	shafts 2+P	shafts 2+P	shafts 1+P	shafts 2+P
b	b	a	b	a	b	b
shafts 2+P	shafts 2+P	shafts 2+P	shafts 1+P	shafts 1+P	shafts 1+P	shafts 2+P
a	a	b	a	b	a	a
shafts 1+P	shafts 2+P	shafts 2+P	shafts 1+P	shafts 1+P	shafts 1+P	shafts 2+P
b	b	a	b	a	b	b
shafts 2+P	shafts 1+P	shafts 1+P	shafts 2+P	shafts 2+P	shafts 1+P	shafts 2+P

CHART 1

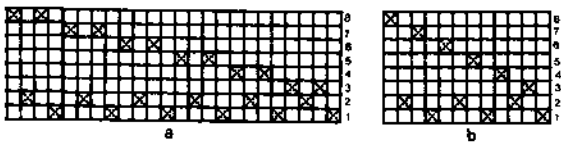


FIGURE 1. 8-shaft 2-tie 4-end draft

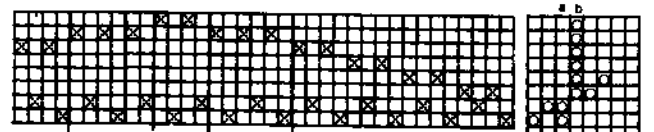


FIGURE 4

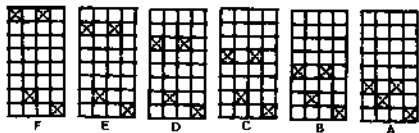


FIGURE 2. 8-shaft Summer and Winter units

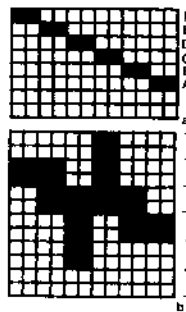


FIGURE 3

- treadling block I
- treadling block II
- treadling block III
- treadling block IV
- treadling block V
- treadling block VI

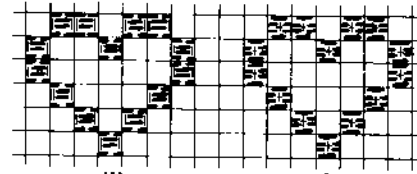


FIGURE 6

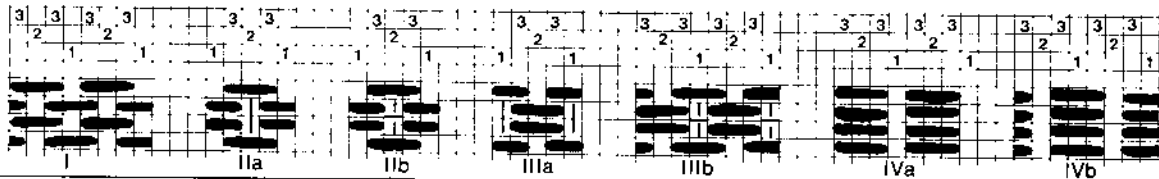


FIGURE 5

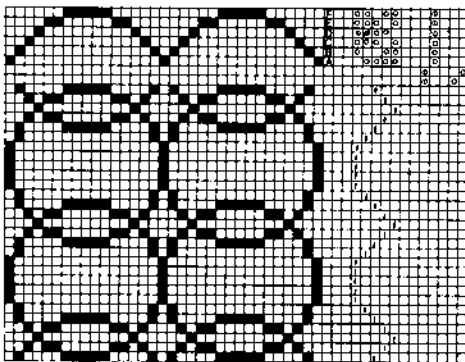
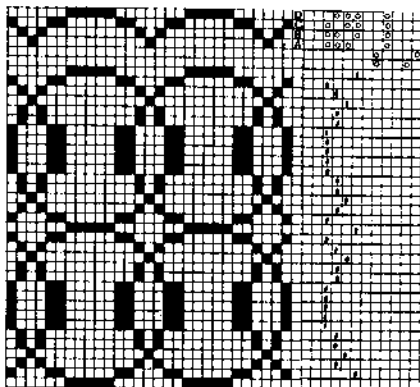


FIGURE 7

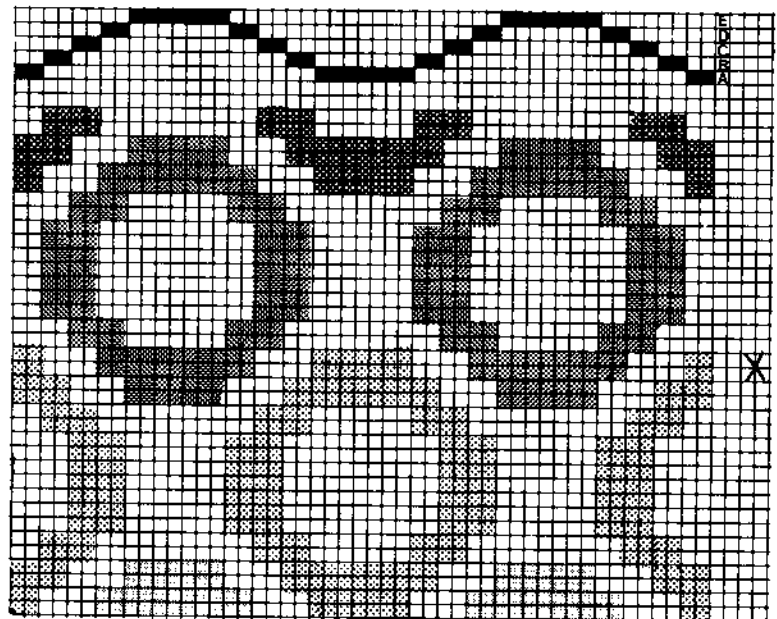


FIGURE 8

which is of the same weight as the pattern pick and which is thrown in the shed that is the opposite of the pattern shed. Background and pattern differ only in color, not in weave structure.

The weaving sequence is the following:

- Lift tie-down shaft 1 plus all the pattern shafts of the background area; weave pattern pick *P*.
- Weave its opposite, that is shaft 2 plus all the pattern shafts of the pattern area, with weft *G*.
- Lift tie-down shaft 2 plus all the pattern shafts of the background area; weave pattern pick *P*.
- Weave its opposite, that is, shaft 1 plus all the pattern shafts of the pattern area, with weft *G*.

In practice this treadling sequence is slightly altered to make the weaving more rhythmical and to get better selvages:

Shaft 1+pattern shafts of background, weave *P*
 Shaft 1+pattern shafts of pattern area, weave *G*
 Shaft 2+pattern shafts of background, weave *P*
 Shaft 2+pattern shafts of pattern area, weave *G*

If the threading is balanced by ending with a warp end on shaft 1 and if the shuttles carrying *P* and *G* are started from opposite directions, the selvages will weave well without the need for floating selvages.

If the loom has an easy tie-up system this type of weaving is best done on 4 treadles as shown in Fig. 9.

The two right side treadles are tied to opposite pattern shafts. For each new treadling block, the shafts which need to be untied from one of the treadles have to be tied to the other. (Treadle switching!)

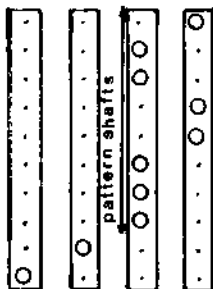


FIGURE 9

Polychrome weave

In polychrome Summer and Winter boundweave, 3 pattern wefts of equal weight complement each other for each row of weaving. The design may have blocks of 3 different colors and/or blends of these colors. See Fig. 10. The treadling sequence is:

Shaft 1 + pattern shafts where *P* is not visible in the design, weave *P*.

Shaft 1 + pattern shafts where *Q* is not visible in the design, weave *Q*.

Shaft 1 + pattern shafts where *R* is not visible in the design, weave *R*.

Repeat these 3 picks with shaft 2 instead of 1.

For the X treadling block of Fig. 10, treadle:

1 + 3 + 4 + 5, weave

1 + 3 + 7 + 8, weave

1 + 5 + 6 + 7, weave , repeat with tie-down shaft 2.

Always weave a 6-pick sequence even if some colors do not appear in the design.

For the Y treadling block of Fig. 10, treadle:

1 + 3 + 4 + 5 + 6 + 7 + 8, weave

1 + 3 + 4 + 5 + 6 + 7 + 8, weave

1, weave , repeat with tie-down shaft 2.

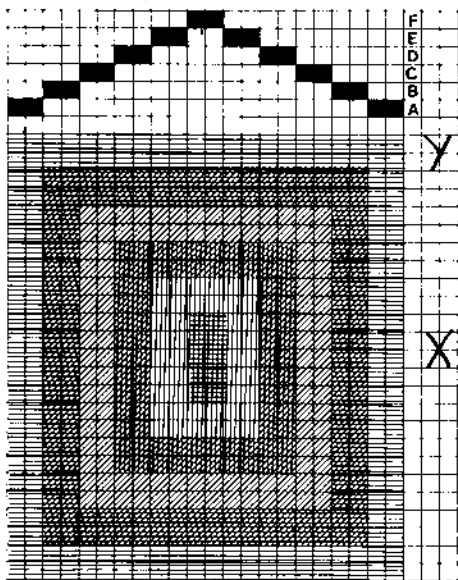
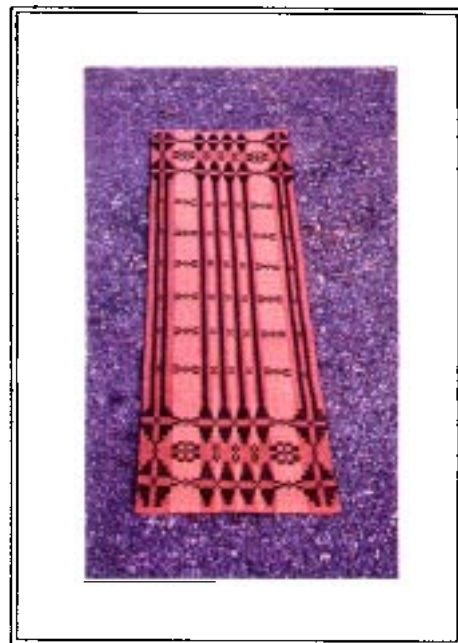


FIGURE 10



SUMMER AND WINTER PROJECTS

COFFEE TABLE RUNNER contributed by Myrna L. Golay

"Summer and Winter weave has long fascinated me because elaborate geometric patterns are possible with a limited number of shafts".

WARP: Cottolin in two colors, rust and orange.

COLOR ARRANGEMENT OF THE WARP: Each of the two warp colors is used to thread groups of blocks, thus making a striped warp. See Fig. 11.

WIDTH IN THE REED: Approximately 15" (38 cm).

SETT: 24 epi (100/10 cm) in a 12 dent reed.

WEFT.

tabby: Orange cottolin.

pattern: Black 2 ply wool (690 yards / lb. or 1400m/kg).

THREADING: In the profile draft of Fig. 11 replace each square by the appropriate Summer and Winter threading unit 1,3,2,3; 1,4,2,4, etc. There are 89 units of 4 ends each for a total of 356 ends. Add an extra thread at the end of the threading to balance the weave. The threading is 7-shaft, 5 block Summer and Winter. Shafts 1 and 2 are the tie-down shafts, shafts 3 through 7 are the pattern shafts.

TIE-UP: 3 sets of treadles are used. The left two treadles are tied up to the tie-down shafts. The center two treadles are tied up for the ground which is plain weave. The right treadles are tied to the shafts that will be lifted for the various treading blocks (pattern shafts of the background areas).

If only 10 treadles are available, eliminate treadle *a* and put the foot on both treadles 1 and 2 instead.

TREADLING: Alternate a plain weave pick and a pattern pick. For the pattern picks use two feet; one lifts a tie-down shaft, the other a set of pattern shafts.

The table runner shown is woven in pairs but any other treading variation of Summer and Winter can be used.

PLACE MATS

contributed by Gladys Riehl

"Planning and weaving figures in Summer and Winter weave seems difficult only until you understand the principle of drafting block patterns. On an 8-shaft loom one can weave figures requiring six blocks".



WARP: 18/2 green linen.

SETT: 30 epi (120/10 cm).

WIDTH IN THE REED: Approximately 12" (30 cm).

WEFT:

tabby: 20/2 green Egyptian cotton.

pattern: White synthetic yarn, somewhat heavier than the tabby weft.

THREADING: In the profile draft of Fig. 12, replace each square by the appropriate Summer and Winter threading unit, 1,3,2,3; 1,4,2,4; etc. There are 90 units of 4 ends each for a total of 360 ends plus one end on shaft 1 to balance the weave.

TIE-UP: Because the Summer and Winter treading chosen to weave these mats uses only one tie-down shaft, only 2 sets of treadles are used. The center two treadles are tied up to weave the tabby ground. All the other treadles are tied to tie-down shaft 1 and each one of them is also tied to one or more pattern shafts. For each treading block the corresponding treadle is tied to the pattern shafts of the background area.

TREADLING: Alternate a tabby pick (treadles *a* and *b*) and a pattern pick. Each square of the graph may take 2 or 4 pattern picks and the same number of tabby picks. This depends on the

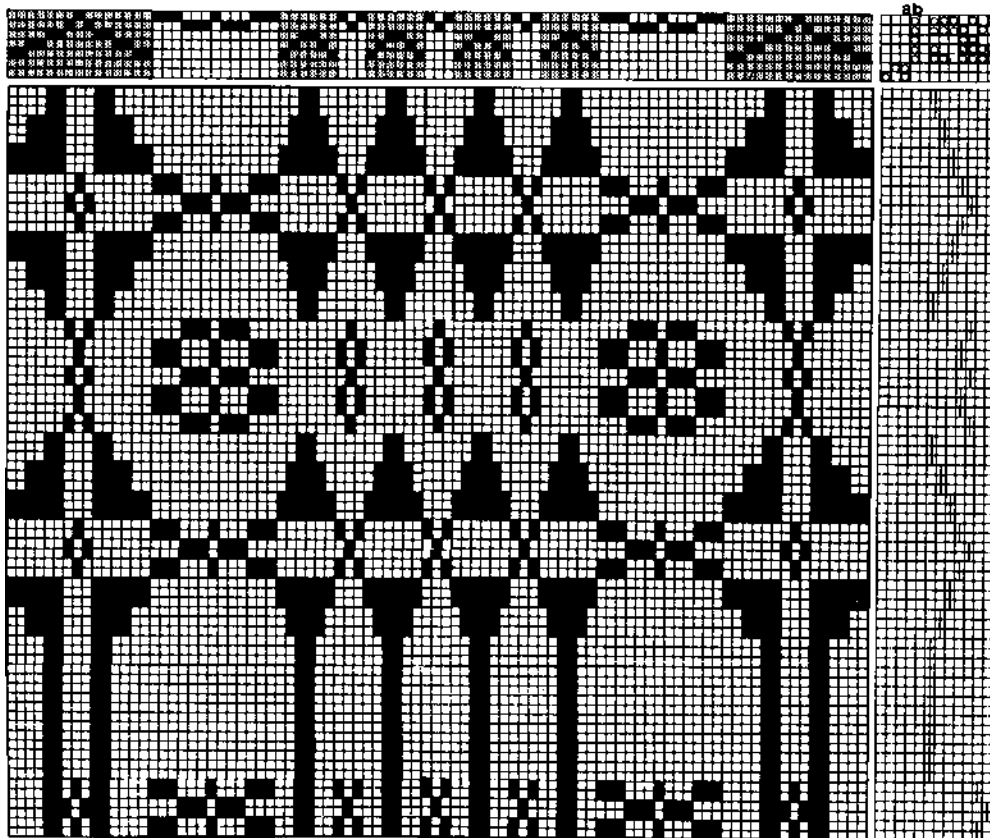


FIGURE 11

thickness of the weft. Note that the brim of the hat is only $\frac{1}{2}$ square high and the face $2\frac{1}{2}$ squares.

Fig. 13 shows the draft for the other placement shown.

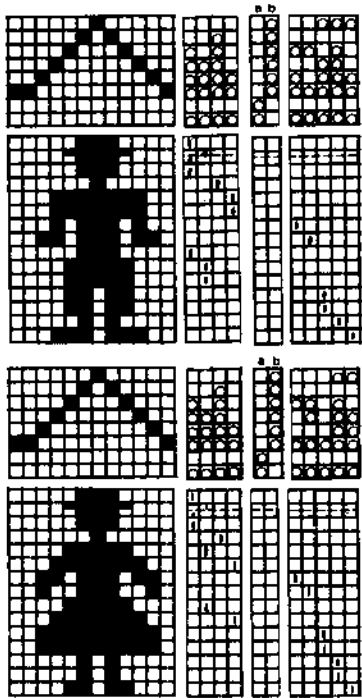


FIGURE 12

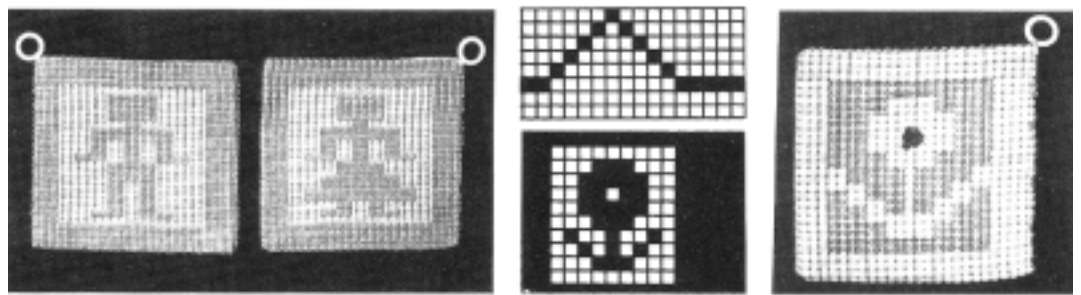
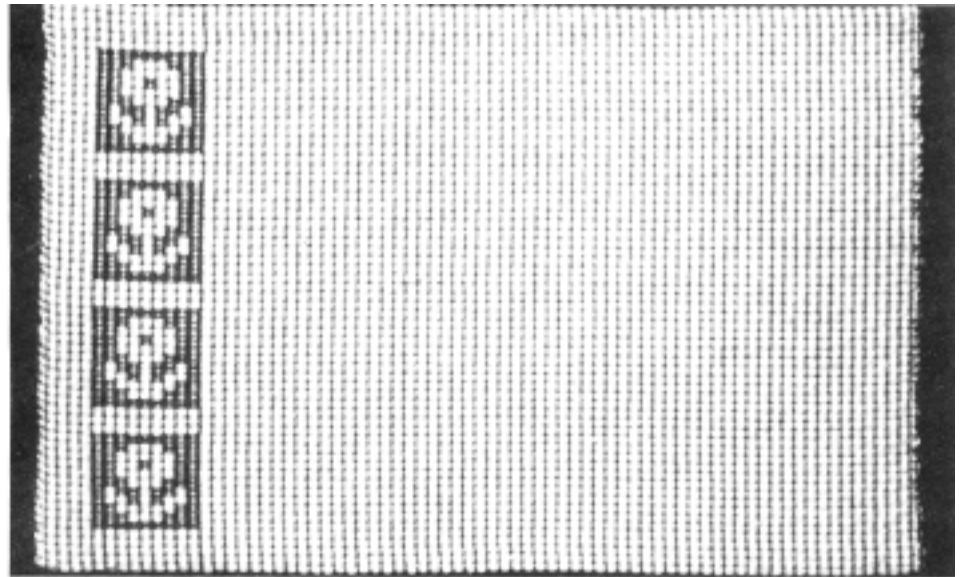





FIGURE 13

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Photos by Donald C. Noble

PERUVIAN SLINGS: THEIR USES AND REGIONAL VARIATIONS

by Carol Rasmussen Noble

Photo 1. Two men on market day near Huancavelica.

Braiding is a pan-Andean tradition that has carried through from the pre-Columbian period to the present day. Although Cahlander's monograph* has highlighted Bolivian braids, the art of the *onda*—*onda* being the Spanish term and *huaraca* the Quechua term for sling—is also alive and well in Peru, and in a wide variety of forms. Also, although knowledge of the structures is now available, little has yet been made known outside of the Andes concerning the multiple uses of the *onda* and related braids; that is to say, their place and function within the daily life of the indigenous people of the Andes.

The most obvious use of the *onda* is in herding. A rock is placed in the eye (or cradle), a finger is hooked in the loop at one end of the sling; holding the other end in the same hand, the herder twirls the *onda* above his head, releases the loose end, and the rock flies. However, the *onda* is seldom used in this way in everyday herding. The alpacas, llamas, sheep and cows are very well trained; by merely twirling an empty *onda* in the air the herder can galvanize the animals into a trot. Undoubtedly the most common uses of the *onda* in herding are the slapping of the rumps of recalcitrant animals and the firing of rocks at vicious stray dogs.

But the *onda* has a darker side. Since pre-Columbian times it has been used

as a weapon, and is still so used today in the ritual battles called "*Chiaraque*," between two districts of the Kanas region, and "*Toqto*," between Kanas and Chumbivilcas. Fatalities from stoning are not unusual in these battles. Also, a foreign archeologist who happened to walk alone into a village in the central Andes a few years ago during the funeral procession of a person believed to have been killed by witchcraft was stoned to death. *Ondas* are common weapons in riots and strikes throughout the Andes. They are also used during Carnival to throw eggs and rotten vegetables, and in the ritualized Carnival combats among groups of men who use *ondas* to slap at and stone each other's legs, with injuries commonplace.

In all areas, there is a definite distinction between everyday working *ondas* and ceremonial *ondas*, in addition to pronounced regional variation in styles. Huancavelica, in the Andes of Central Peru, is known for particularly fine *ondas*. Photos 2a, 2c, and 2d show typical patterns of Huancavelica; is the only region presently known to include animal figures, initials, and even words and numbers on *ondas*. Note the date *Ano 1977*—and the lizard-like creature on the *onda* in Photo 2a. For festival *ondas* (Photo 2d) commercial yarns are preferred for embellishment because they

are thought to make fluffier, fuller tassels and pom-poms. In contrast, if color is used in *ondas* in the Cuzco area, hand-spun and hand-dyed yarns are used. These ceremonial *ondas* are worn by men of the Huancavelica area diagonally across the chest on market days or during festivals. Photo 2b shows an unusual pattern restricted to the village of Huancachi in the same region.

Throughout Peru alpaca is the preferred fiber for *ondas*. *Onda* making is thought to be man's work, and men do their own spinning for it, frequently using a spinning method known in central Peru as *hilar a Guayaquil* (Guayaquil spinning) or *mismiy* in Quechua. A short stick, usually bamboo (the origin of the name Guayaquil) in central Peru, is held in one hand, a roving in the other, and the two hands are rotated in opposite directions.

Photo 4a shows a typical alpaca *onda* from Ayacucho, to the southeast of Huancavelica. As with the Huancavelica and Huancachi *ondas*, both sides are of equal diameter. But the central eye is unsplit and cup-shaped in the Ayacucho example, in contrast to the split eyes in the others. However, a rare

*Adele Cahlander with Elayne Zorn and Ann Pollard Rowe, *Sling Braiding of the Andes*, Weaver's Journal Monograph 4, Colorado Fiber Center Boulder, 1980.



Photo 2. From left to right:
 a) a Huancavelica onda with creature and date
 b) an unusual pattern from Huancachi
 c) and d) two ceremonial ondas from Huancavelica



Photo 3. A man spinning yarn for an onda.

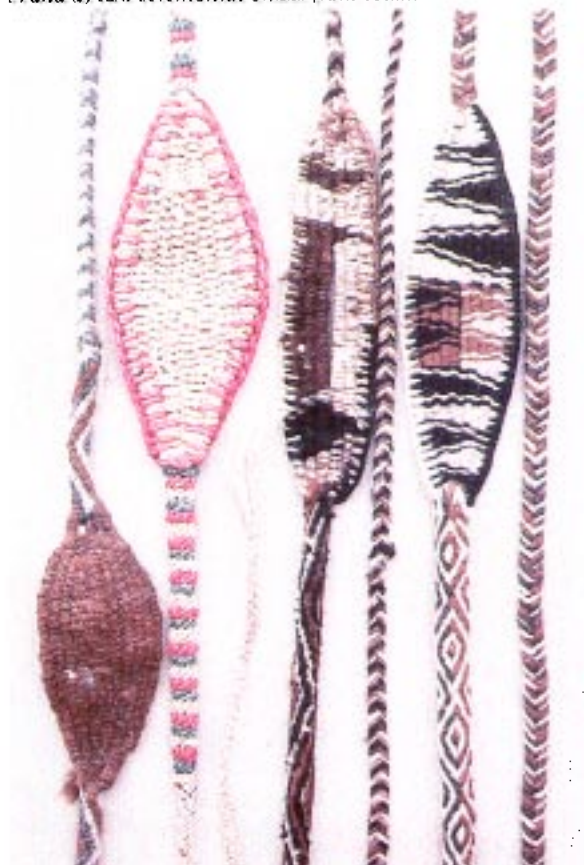


Photo 4. From left to right:
 a) a typical Ayacucho onda
 b) a rare sisal onda from Acosvinchos
 c) and d) two typical Cuzco patterns



Photo 5. Backstraps for backstrap looms.



Photo 6. Two three-piece ondas from Arcala near Cailloma left, and from Chivay right.

Photo 7. Ondas from Kanas left, and Chumbivilcas right.



Photo 8. A wuyfala with wichi-wichi tassels from San Pablo.



Photo 9. A wuyfala from Cachin-Lares left and a falcha from the same area right.



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type of onda is also made in the Ayacucho area. Photo 4b shows an onda from Acosvinchos that is made of sisal using a braid structure of pre-Columbian origin that is different from other contemporary Andean ondas, but closely related to that of the rawhide whips indigenous to the Ayacucho area with its long tradition of Morochuco horsemanship. A closely related form, found throughout the Andes, is the backstrap for looms. These backstraps are structurally almost identical to ondas down to the slit in the center of the eye. The backstrap illustrated in Photo 5 left is Bolivian, but Peruvian examples are essentially identical. The second backstrap, Photo 5 right, of sisal, is from the Ayacucho area.

Farther south in the Department of Cuzco and surrounding areas, the styles and variety of ondas and related braids vary considerably from those of central Peru. The most obvious change is the difference in diameter of the two sides. Photos 4c and 4d show ondas very typical of and widespread in Cuzco and surrounding areas. Much farther to the south west in Chivay, ondas are similar in shape, but much smaller, with an unsplit eye bound with cross-knit looping. In this area, llama hair is frequently used instead of alpaca. The onda in Photo 6 right is from Chivay. In the areas of Chumbivilcas and Caillona, along the border of the Departments of Cuzco and Arequipa, ondas exhibit yet another style, as seen in Photos 6 left and 7 left. These ondas, and the Chivay example, also show distinct methods of construction, some being made in two and others in three separate sections that interlock. The eye and thinner side form one completed section; the thicker side is made by yarns threaded through a hole in the other end of the eye. Sometimes this thicker side is made with two finished ends, and the finger loop at the end is threaded through a hole at the other finished end of the thicker side. The cross-knit looping edge of the eye is typical of this area, but is also used in Kanas, where yet another distinct onda style, seen in Photo 7 left, exists. Isolated patterns separated by squares with opposite colors, usually pink or red, and with the thinner end made by

wrapping over a yarn core in natural wool colors are typical.

In addition to the onda per se, a wide variety of dance tassels formed on an onda base are made in the Cuzco area. Some of the most impressive are the *wuyfalas* from San Pablo. Photo 8 shows an example. Sometimes the small tassels are worn separately on the fingers or attached to the belt by women for dancing; these are called *wichi-wichis*. A much simpler *wuyfala* is used in the Cachin-Lares area. Note the diminished center eye in Photo 9 left. This is characteristic of all the onda-based dance tassels. The *wuyfala* is used solely by men. At dances during Carnaval, for example, the men twirl it and slap it at each other's legs, or at the skirts of their women to show rivalry or affection. At other times, it is worn across the chest as part of the dance costume. Another rarer onda-based tassel is used exclusively by women in the Chacin-Lares area. The tassel in Photo 9 right is called a *falcha*, and typically uses red in the braid. Here the small eye is folded in half as the fringes are attached.

Based on the crude and puny ondas for sale in many souvenir shops in Peru, one would think that the art of braiding in Peru was dead. Much to the contrary, the art of the onda is thriving in the more remote areas of the Peruvian Andes. The onda is an important and necessary tool in the everyday life of the rural people of the Andes, and, in its ceremonial and dance functions, an integral part of the complex indigenous Andean culture.

Mrs. Noble has been collecting and studying Andean textiles in Peru for nine years. In 1976, she studied weaving with Francisca Mayer in Huancayo and spinning in Huancavelica. Present studies include a regional survey of textiles of central Peru and an analysis of a previously undescribed weave structure from southeastern Peru.

She has worked in a wide variety of fiber techniques. Current interests include one-of-a-kind and ceremonial garments, west-faced and wedge weave rugs, and backstrap loom weaving. She has participated in a number of juried shows, including "Stitchery '77," "Quilt National '79," and "Needle Expressions '80," and has had two one-woman shows. She has taught a variety of techniques, appeared on television programs and written a number of articles. Currently she is designing and selling clothing and sweaters and is a graduate teaching fellow in Spanish at the University of Nevada-Reno.

BOOK REVIEWS

LATIN AMERICAN BROCADES: EXPLORATIONS IN SUPPLEMENTARY WEFT TECHNIQUES by Suzanne Baizerman and Karen Searle. 1980 revised edition, published by Dos Tejedoras. Distributed by Beka Looms, Inc. 28 pp. \$3.50.

The inlays and brocades described here are often referred to as loom embroidery because they resemble embroidery work. However, the function of the loom is to enable the weaver to make the ground cloth at the same time as the embellishments are applied. The loom acts also as a stretcher and support for the work.

The techniques discussed here are suitable for a two-shaft loom, a backstrap loom or a rigid heddle loom.

The structure of the brocade is described with the help of drawings and photos of Latin American specimens. Instructions are given on the use of pick-up sticks, string heddle bars and regular shafts for opening the pattern sheds in which the embroidery takes place.

This book should not be regarded as an authoritative text on Latin American weaving but mainly as a how-to publication on loom embroidery. Many of the techniques described here are not usually found in other books for handweavers.

Clotilde Barrett

PATTERN DEVICES FOR HANDWEAVERS by Doramay Keasbey © 1981. Published by Doramay Keasbey, 5031 Alta Vista Rd. Bethesda, MD 20814. 125 pp.

How can a weaver create patterns which are seemingly impossible to execute on an ordinary handweaver's loom? This question and its many answers prevail throughout this book.

Patterns in general and the different types of looms commonly used by handweavers are discussed in the first chapter, yet this very first chapter also introduces the drawloom and the fundamentals of drafting. The double harness system is described at the very beginning of the book in a simple straightforward language which makes the reader feel that this is a technique he can master and adapt to his present equipment.

The next chapter deals with some historical events that are important to handweaving and elaborates somewhat on the drawloom in order to explain how exquisite patterning was possible before the industrial revolution. Folk art traditions and ethnic groups have been valuable in preserving some patterning techniques in spite of the growing effects of industrialization.

The shed control devices described in chapter 3 are of great interest to weavers concerned with loom controlled patterning. They include the common lifting of shafts by means of tie-ups and treadles, the "jack-in-the-box" device, the dobby mechanism, the double harness method, shaft switching and the use of a counterbalanced pattern harness which is a technique I hadn't seen a description of before.

Several important weave structures are discussed: Supplementary weft pattern, supplementary warp pattern, twill, damask, double weave and beiderwand. The amount of patterning that can be accomplished with these weaves increases considerably by using the special shed control systems which are suggested by the author. Sometimes this system is as simple as a pick-up stick. These chapters also include some lesser-known weave structures which give a remarkable number of pattern possibilities by merely treadling an ordinary 4,8 or more shaft loom.

The chapter "pattern composition" deals with designing twills, supplementary warp and weft structures, pattern analysis, profile drafts, and free form design. It is somewhat of a catch-all!

The book has a valuable bibliography, although many of the books mentioned are out of print.

This book will be of great interest to experimental weavers and those who are intrigued by lesser-known weave structures.

Clotilde Barrett

ORIENTAL RUG REPAIR by Peter Stone © 1981. Published by Greenleaf Co. P.O. Box 11393, Chicago, IL 60611. 166 pp. Hardcover ISBN #0-940582-00-7.

Although there is a chapter on cleaning rugs and removing stains and one on use, care, storage and display, the bulk of the book deals with the technology of repairing rugs.

As the author discusses flat woven rugs as well as pile rugs, the instructions for repair and restoration apply to all rugs and are not limited to orientals. The technical information is well illustrated by means of drawings and black and white photographs and is quite comprehensive.

Handweavers, most of whom are often faced with repair problems, will find this book a useful reference to have. The book could also be useful for someone who wants to self-teach rug repairing techniques in order to render repair service to clients.

Clotilde Barrett

ORIENTAL RUGS CARE AND REPAIR by Majid Amini © 1981. Published by Van Nostrand Reinhold Co., New York. 128 pp. Hardcover \$19.95 ISBN #0-442-20864-2.

This book is a useful manual for people who through good fortune have acquired oriental rugs and want to know more about them and for people who are adventuring into the exciting field of becoming collectors.

Part I, understanding your rug, is meant to increase the reader's sensibility toward history, technique, color, design and origin of oriental rugs. The text is beautifully illustrated with color photography.

Part II, care and maintenance, gives lots of practical information. There are tips on how to use rugs in designing an interior, how to care for them, how to remove stains and how to make repairs.

There is a great deal of good advice about restoration, buying, selling and valuation of oriental rugs.

This book must really be considered as an introduction to the subject. It is well illustrated, easy to read and not very technical. The subject of care and repair is not explored in great depth.

Clotilde Barrett

TEXTILES, COSTUME AND DOLL COLLECTIONS: in the United States and Canada, Edited by Pieter Bach. Published by R. L. Shep, Box C-20, Lopez, WA 98261. ISBN # 0-914046-01-2 1981. 69 pp Paperback \$4.95

Most of you are familiar with returning home from a trip and hearing about interesting museums in the city you visited that you missed because you didn't know about them. If you had a copy of *TEXTILES, COSTUME AND DOLL COLLECTIONS* this would not have happened.

This book is divided into three sections: textiles, costume, and dolls. You need only turn to the section in which you are interested and look for the state and city, under which you will find listed all the museums with collections in which you are interested. The textile section is the largest and comprises over 30 pages of listings.

The editor has not given any information about the collections, their focus, or extent, so visiting the museums listed will be something of a treasure hunt.

It is too bad the book was not made more attractive. However, the accuracy of the listings and the reasonable price should be appreciated by everyone.

Mary L. Derr

ANCIENT DANISH TEXTILES FROM BOGS AND BURIALS—A Comparative Study of Costume and Iron Age Textiles by Margrethe Hald © 1980. Translated by Jean Olsen. Published by Nationalmuseets Forlag, Ny Vestergade 10, 1471 Copenhagen K, Denmark. 400 pp., hardcover, 285 Danish kroner (approx. \$40.00), ISBN #87-480-0312-3.

After long being out of print, but still in much demand, at last there is an English translation of this classic book. It was first printed in Danish in 1950, with English sub-titles and summary. Based on the rich Danish textile finds from the Bronze and Iron Ages, it is a scholarly, well-documented book full of photos in B/W, and is of particular value to persons interested in ancient textiles.

The first 110 pages are devoted to descriptions of individual finds from peat bogs, and from graves and settlements. Then there are 80 pages of technical characteristics of raw materials, spinning, woven fabrics and their construction. Aspects of dating pre-historic Danish weaves are discussed.

The following 110 pages include details of looms & fabrics, tablet weaving, braiding & sprang, plus needlework and sewing. There are excellent line drawings to illustrate many techniques, among which some of my favorites are various ways of making tubular selvages, use of tablet weaving both for side- and end-selvages, and fantastic step-by-step methods for several complicated types of looped needle-netting.

In the next 75 pages she traces the development of styles of pre-historic Danish costume (including the "bog jacket"), relating to the early use of skins and also to some ancient and ethnographic costumes found elsewhere. The book concludes with a short summary, listing textile techniques and forms of costume, together with places throughout the world where similar ones have been found. She alludes to the possibility that common elements in Europe and the Americas might have diffused from some focus of civilization in Asia. Lastly, there is an extensive bibliography.

The author recognizes the importance of thorough analysis of the textiles, and also of finding a continuity both back through time and into the future. She not only makes links between Iron Age and Bronze Age material, but also turns to folk art and ethnographic material, which helps us understand how pre-historic people worked. I appreciated her mentions of similarities in the Andes.

My personal regret was that she had not included some approximate time table for the various culture periods, at least for northern and southern Europe. I had grown rusty on some of the terms, and found I even had to review the sequence of the Ages—Stone, Bronze and Iron!

Adele Cahlander

MAKING SIMPLE CLOTHES by Ida Hamre and Hanne Meedam © 1980. Published by Adam Charles Black, 35 Bedford Row, London WC1R 4JH, 115 pp. £3.95 ISBN #0-7136-2051-X.

This book complements the one on pattern making by the flat-pattern method mentioned on p. 60. The clothing here is based on simple shapes such as the rectangular tunic. The fit and the design is more related to the weight of the woven fabric, its width and to the function of the garment rather than to the shape of the body. It is a very good text for anyone interested in ethnic clothing and in styles which are essentially shaped on the loom.

Many stylish fashions are derived from ethnic garments whose comfort and economy of material have always appealed to the hand-weaver. The author's thesis is that contemporary derivations of ethnic garments are successful only if one understands the development of the original shapes and the purpose of the garment.

By giving an insight into the origins of ten important types of garments, this book makes the reader develop a sensitivity to designing comfortable and durable clothes based on rectangular shapes. The book shows how to adapt ethnic styles to well-fitting original fashions whose simple cut provides a greater scope for personal statements in weave structures and color.

The book is rich in patterns and photographs but, above all, concerns itself with the form, function and development of clothing.

Clotilde Barrett

WEAVES OF THE INCAS by Ulla Nass, © 1980 Ulla Nass, 220 Sunnybrook Road, Flourtown, PA 19031. 104 pp. plus 4 pp. color plates, paperbound \$16.95 + \$1 postage & handling.

Ulla Nass has accomplished an admirable feat of ferreting out various warp-patterned weaves from the times of the Incas, and also figuring out ways of reproducing their structures. I was particularly pleased that she had included the rare double-woven complementary-warp weave, in 4 and 6 color-sets.

I especially enjoyed her introductory chapter. After some historical background, she related some features of Andean textile patterns to the line drawings of Escher, and also made reference to the computer-type mathematical logic involved.

Her approach to structure and pattern formation is novel, based on a "set theory", with emphasis on a visual recognition of various combinations of colored yarns to be picked. As she states, she does not offer "elaborate patterns on graph paper," but presents principles which she hopes will allow the reader through practice to create her own patterns more freely.

The entire manuscript was neatly hand-lettered in a style I find attractive and well-spaced (though subject to "typos"); however, some of my friends objected since they consider it harder to read than a printed page.

Her line drawings are excellent, and carefully illustrated every step, based on a backstrap loom setup. She begins with the basic "pebble" weave, then goes on to some more complicated variations and combinations, many with more "color-sets". For some weavers, her "set" theories are confusing, especially some of her terminology, such as "whole mixed pairs", "split mixed pairs", etc.

My own personal objection is that in working out her theories for the basic "pebble" weave, she did not follow the usual Andean practice of counting by pairs in the pattern rows, with the "tie-down" rows having singles of light or dark yarns at the edges, rather than the reverse. Another technicality: she places the *white* yarns on the shed rod and the *colored* ones in the heddles. I have found the reverse commonly practiced in the Andes, which also makes it easier for me to see and count finer yarns in picking. In her method, she uses just one heddle stick with a shed rod, plus lease sticks in the back. This is adequate for coarser yarns, but when I have woven these multi-colored complex weaves with finer and more slippery yarns (e.g. fine silk), I have preferred to use more heddle sticks, to have more control and to simplify the picking.

I regret too that she did not give more attention to how the edges of her bands are done, although she did mention that in two of her belts she had a plain-weave border. The Incas also made good use of the 1-bout (2-warp) chain-link edge, which is very neat.

Throughout the book, she has a series of good black-and-white photos of museum specimens, and of samples done by herself and some friends. Sixteen of these same photos are shown in rich color in the four pages of color plates at the back of the book. There is a bibliography as well.

Adele Cahlander

WEAVING ON A FRAME LOOM: A FIRST PROJECT by Mary Lonning Skoy, 1981 revised edition. Distributed by Beka Looms, Inc. 27 pp. \$2.70.

This is probably one of the best basic texts for a beginner who has just purchased a rigid heddle loom (also called slot and heddle loom). The step by step instructions are clearly illustrated with drawings. Enough simple techniques are given to keep the beginner's interest alive and to entice her to start projects on her own.

Clotilde Barrett

THE WOOLCRAFT BOOK. *Spinning, Dyeing, Weaving* by Constance Jackson & Judith Plowman © 1980. First U.S. edition published by Charles Scribner's Sons, New York, 192 pp, hardcover \$24.95 ISBN #0-684-17419-7.

This is not only a good reference book on wool fiber, it is also a comprehensive and practical course on spinning. In evaluating the usefulness of this book as a self-teaching aid it is best to quote the authors: "We have taken particular care to observe the problems encountered by the novice and so set down not only *how* to do it but also *why*, and *what* to do if something goes wrong." The authors have achieved this goal and much more.

Chapter after chapter, the authors give the information a spinner is really looking for, such as: buying a spinning wheel, how the wheel works, how to care for it. Separate chapters deal with selecting and sorting a fleece, washing and storing wool, and preparation of wool for spinning.

Learning to spin is divided into two parts. First the spinner gets the satisfaction of making a continuous thread, second the spinner learns the drafting methods, about efficiency and how to design yarns.

Subsequent chapters deal with dyeing, both chemical and vegetal, and the use of handspun for knitting and for weaving.

This book is highly recommended, not only for spinners of all levels of skills but also for weavers who will gain a better understanding of the qualities of wool fibers and the yarns they work with. The book covers a lot of ground, from sheep to finished product but the authors never skimp on informative detail and never gloss over potential problems.

Clotilde Barrett

NIGERIAN HANDCRAFTED TEXTILES by Joanne Bulolz Eicher © 1976. Published by the University of Ife Press, ILE-Ife, Nigeria. Distributed in the U.S. by Dos Tejedoras, 3036 N. Snelling, St. Paul, MN 55113. 64 pp. \$15.00 m 1.25 P/H ISBN #978-136-002-X.

This is a lively account of textiles in Nigeria which shows the richness and variety of that craft in Africa. The author first introduces the land and its people. This is necessary for full appreciation of the broad range of fiber technology and designs dealt with in this book. Native silks and cottons, often handspun, are important to some fabrics and are described in detail. However, the author points out the importance of industrialization and of the importing of fibers and cloth.

The woven textiles are done either on a narrow horizontal loom with heddles and treadles, or on a vertical frame loom. The author discusses both in detail and with scholarly accuracy, always using a lively descriptive language which captivates the interest of the reader. One by one, the fabrics seem to come off these looms to become better understood and more appreciated as one reads along.

Dyed textiles are very important for everyday wear and for their value to the culture of African people. As indigo is native to Nigeria, it is the most common dye and is used with great skill, utilizing various dye methods and two important techniques of resist dyeing: tie-dyeing and starch resist. The dye processes and resulting patterning are described with depth and understanding.

Finally the author deals with embroidery, applique and drawnwork; all techniques which are used in Nigeria to embellish clothing and ceremonial cloth.

Many photographs illustrate how textiles are crafted and how they are used by the natives.

An extensive bibliography makes it easy for the reader to pursue the study of African textiles.

Clotilde Barrett

WARP/WEFT/SET. *A reference manual for handweavers* by June H. Beveridge © 1980. Published by Van Nostrand Reinhold, New York 191 pp. #13.95. ISBN #0-442-26129-2.

This book is both very exhaustive and very limited. It consists of a large number of photographs of samples. The warp is either cotton or linen. The wefts are a large selection of wool yarns. There are numerous combinations of warp, sett and weft. Each sample shows 1" (25 mm) of plain weave, 1" of twill and 1" of over 2, under 2 weave. The presentation of the material is orderly and methodical. The limitations are numerous. As one example, the purpose of the samples is to show weft face fabrics. Yet, the major use for weft face fabrics is rugs and the author stops short of giving the range of suitable warp/sett/weft combinations for rugs.

One of the most popular cotton sizes, (8/2) (used almost exclusively in Quebec), is not tested. It wouldn't matter if it had, because the most popular sett is 24 epi (100/10 cm) and the author feels that the closest sett worth sampling for a 16/4 cotton (same grist as 8/2) is 15 epi (60/10 cm). Furthermore, for many of the yarn sizes listed, the weaver would be more interested in the correct sett for a balanced plain weave than in a series of setts which do not give a satisfactory weft face structure.

The introductory text also falls short of what one would expect. For instance, the author mentions the virtues of the Tex system for determining yarn sizes but does not say what it is. The statement "the tighter the tension between the beams, the less the weft will compress" is definitely at odds with my own experiences.

I cannot predict that this book is going to help eliminate sampling time in order to find the correct sett for a project.

Clotilde Barrett

HANDSPINNING: ART & TECHNIQUE by Allen Fannin. Published by Van Nostrand Reinhold Company, New York, 208 pp. 1981 paperbound edition. \$9.95.

Allen Fannin's fine book on handspinning, published in 1970, is now available in paperback. This is good news indeed for handspinners and weavers, for his book is probably the most complete and definitive book on the subject available today.

Fannin likes modern technology. He explains how yarn is spun in the spinning mills and explains how some of the technology can be adapted to handspinning.

In his book, Fannin also discusses the kinds of fibers that can be spun, the basic principles of spinning, the tools and equipment used, fiber preparation processes, spinning and yarn design.

Though each chapter is full of new insights and ideas, the last on yarn design is probably the most important. Here he discusses how a spinner can design yarn by varying certain steps in the spinning process.

The entire book is enhanced throughout with excellent black and white photos which are the work of the author. The photos of fibers are very clear and useful and those showing the use of handspinning tools are especially helpful.

This is a book every fiber artist should own. Where else can you find complete instructions on renovating an antique spinning wheel?

Allen and his wife, Dorothy, are well known for the creative handspun yarns they have designed and produced.

Mary L. Derr

ATLAS de 4000 ARMURES de TISSAGE et ELEMENTS d'ORNEMENTATION POUR ARTICLES d'AILLE par Louis Serrure. Les éditions de l'industrie textile, 36, rue Bellu 75009, Paris, France. F.F. 1000.00 (approx. \$175.00).

This publication is a cloth-covered box (13" X 10 1/4" X 3") filled with loose-leaf pages of drafts. The only text is a short introduction by Jean Pilisi, written in English, French, German and Spanish. The 4000 drafts are suitable for weaving and for machine knitting.

There are 4 pages of threading drafts for 6 to 18 shafts. The 4000 other drafts are drawdowns, also called weave drafts and show the interlacement of warp and weft. The reproductions of these are very poor in spite of the high cost of the book.

This publication is geared to the industrial designer of apparel fabrics and upholstery but can also be used by handweavers who are interested in multi-shaft weave structures. The drafts may also be useful as initial designs on which a computer could interact to produce new ones.

The type of patterns shown in this publication generally appeals more to owners of dobby looms because of the long treading repeats and because the dobby loom is better adapted to weaving repetitive patterns. Some patterns are best suited for small jacquard looms.

Clotilde Barrett

HAMMOCK MAKING TECHNIQUES by Penelope Drooker © 1981. Published by Penelope B. Drooker, RFD Witchtrot Road, Sanbornville, NH 03872. 78 pp. \$7.50 + \$1.10 P/H.

The structure of a hammock can be broken down into several parts: bed, spreader bar, clew, and hanging devices. This book describes in detail many different techniques for making each of these parts. The author gives help with designing an entire hammock by discussing shapes and set-ups that are appropriate for the different types of beds and recommends thinking out the design well before getting started. The instructions are clear and well illustrated and a good set of references are provided for additional information. By giving detailed instructions on each part of the hammock in separate chapters each step becomes remarkably easy and yet the hammock maker has many choices to "customize" his hammock for his own needs, skills and available equipment. The beds, being the most important part of hammocks, have been researched thoroughly and are mostly done on an easy-to-build frame. The techniques include weaving, twining, linking, looping, knotting and sprang. For each different bed structure the author suggests shapes and how to bring the hammock through the different finishing steps.

The last chapter deals with decoration. The book has a useful index and several appendices giving sample specifications for hammock fabrics and clews, estimates of material needed and a list of suppliers.

This is a unique and well-conceived book which will enable everyone to make successful hammocks which are specially suited to fill any needs and demands.

Clotilde Barrett

DESIGNING FOR WEAVING: A study guide for drafting, design and color by Carol S. Kurtz © 1981. Published by Hastings House, New York 10016. 95 pp. Hardcover \$16.95 ISBN #0-8038-1579-4.

The purpose of this book is to identify and clarify the three aspects of woven design: Technical, aesthetic and personal. The book is divided in three sections, each one dealing with one of these design aspects. The author's approach is very tutorial and therefore this publication can be used as a textbook for a design course or as a guide for self-teaching.

The first section is a brief but clear course on drafting. It is basic and very useful for the beginner and intermediate weaver. The weaver thus acquires a working tool for the design process.

The second section deals with color and the other important design elements of visual art. It is the equivalent of an introductory design course and will prove valuable to weavers of all skills.

The introduction states that finger manipulated weaves such as inlay, tapestry, and rya are topics not covered in the book, therefore one would expect that the aesthetic aspects of woven designs would be applied to loom controlled weaving. Unfortunately the chapter "basic designs for weaving" falls short of integrating the aesthetic aspect of design with the technical aspect of interpreting the design for loom controlled weaving. The study projects of this important chapter rely more on inlay, tapestry and rya techniques.

The last section is the author's personal statement of the workings of the creative process and also contains 12 black and white photographs of works of contemporary artists and their statement of sources of inspiration.

The book has a good bibliography on color, design and the creative process.

Each section of this book accomplishes its goal of clarifying that particular aspect of the design process. The greatest challenge is left to the reader and that is to integrate these aspects into the total design process that can be accomplished in the weaving studio with all the limitations of the loom and fiber medium. The book does not go far enough into its application of design elements to weaving on a floorloom with shafts and treadles.

Clotilde Barrett

FIBRE FACTS by Bette Hochberg © 1981. Published by Bette and Bernard Hochberg. Distributed in the U.S. by Textile Artist's Supply, 3006 San Pablo Ave., Berkeley, CA 94702. 66 pp. ISBN #0-9600990-6-9.

This book proves that sizes are deceiving. In its mere 60 pages and with its small (8½" X 5½") format it gives more useful information to weavers than large glossy editions which often have 1/3 page margins. The book deals with wool, silk, cotton, linen and man-made fibers. It tells about the properties of the fibers, what to expect from the yarns made from these and how to use and care for them. I disagree with the author's statement in the introduction that the book is not to be read cover to cover. I feel that the information given here should be part of every weaver's working vocabulary even if the exact numbers of numerous charts of yarn properties will soon be forgotten.

As handweavers today are more and more put in the position of accepting the yarns which

industry spins for the specific needs of the mills, they are losing touch with the fundamental materials of their art. Betty Hochberg makes us acutely aware of this in this book and tries to cram as much information as possible in this small volume to make up for what we lose by having less and less contact with the raw fibers. Of course, spinning your own yarn is the best way.

Clotilde Barrett

PATTERN MAKING BY THE FLAT-PATTERN METHOD by Norma R. Hollen, 5th ed. © 1981. Published by Burgess Publishing Co., 7108 Ohms Lane, Minneapolis, MN 55435. 228 pp., spiral bound, \$12.95 ISBN #0-8087-3173-4.

Among the most popular projects for weavers are garments. There is a lot of challenge in making an outfit which is just about ready for wear when it comes off the loom. This book presents a completely different challenge: The perfect fit and freedom to design clothing oneself.

In order to do flat-pattern work one has first to purchase a commercial basic pattern that fits or that is adjusted to fit. The pattern work consists of changing this basic pattern for a chosen design. The work is done in paper on a flat surface—hence the name.

The information and instructions given are well laid out with clear drawings so that the professional and amateur designer can use this text as reference material.

The first chapters deal with darts. The importance the author places on darts is evident from this statement "—but—a dart cannot be eliminated or gotten rid of". There are, however, substitutes for darts such as gathers, yokes, seamlines and pleats. They are all explained.

Other pattern and design elements which are emphasized in this book are buttonhole closures, facings, necklines and collars.

The author analyzes a series of basic garments: Skirts, pants, sheath dresses, blouses.

Sleeves are gone into with great detail; the variety of sleeves offered will enable the designer to produce styles for all the fashion trends.

This is an excellent reference book for all fashion weavers for whom it is important to add that extra little touch of fit.

Clotilde Barrett

MAKING RUGS FOR PLEASURE AND PROFIT by Marion Koenig and Gill Speirs © 1980. Published by Arco Publishing, Inc. New York, 80 pp. Hardcover \$10.95. ISBN # 0-668-05079-9.

The techniques of rug making described in this book are for the hobbyist who has no equipment, such as a floor loom, at hand. The only equipment needed is a simple-to-build frame and some hooks and latchhooks. The

only materials are backing, yarns and scrap-
ped fabric.

Many techniques are described with complete instructions: Several types of hooked rugs, needlework rugs and several ways of making rugs by recycling rags. The book is suitable for people with no experience with textiles.

Clotilde Barrett

BOOKNOTES

In the Winter 81-82 issue of *The Weaver's Journal*, we reviewed *Weave it! 28 Projects for Your Home* by Marilyn Meltzer. Bettie Roth, the weaver of the 8-shaft waffle-weave afghan which was mentioned in the review, asked us to publish the following correction: The afghan was not woven on a 42" loom as stated but in two pieces on a 24" 8-shaft loom and joined.

CREATIVE CASH, HOW TO SELL YOUR CRAFTS, NEEDLEWORK, DESIGNS & KNOW-HOW by Barbara Brabec, has been reprinted and is now published by HP Books. Except for the new cover and a slight change of format, I could find no changes in the new editions. The information in this book is very valuable for anyone who is seeking to make profit from crafts. ISBN 30-89586-129-1.

HP Books has published another reference book "*CATALOG SOURCES FOR CREATIVE PEOPLE*" by Margaret A. Boyd. This book lists over 2000 places to find materials and equipment for the various crafts which are practiced today. The sensible organization of the content and information on suppliers as well as a complete index makes this book easy to use and to find what one is after. Such directories can never be complete but this one has a lot of information. Needlecraft and fiber arts take up one third of the 223 pages. ISBN #0-89586-130-5.

Both books are available from HP Books, P.O.

Box 5367, Tucson, AZ 85703. Each costs \$7.95 plus \$1.00 P/H.

Dos Tejedoras has recently published a book on *LATVIAN MITTENS, THEIR TRADITIONAL DESIGNS AND TECHNIQUES*. It is written by Lizbeth Uptis, who has strong family ties with Latvia and who was able to delve into the cultural background as well as the technical aspects of these mittens. The text is in both English and Latvian. There is a great number of designs with clear technical information on the knitting process and the interpretation of patterns. There are special instructions for mittens that have regional characteristics.

The book is well illustrated, has 78 pages and is available from Dos Tejedoras, 3036 N. Snelling, St. Paul MN 55113 at \$10.50 + \$1.00 postage. It is of special interest to knitters who are intrigued by multi-colored knitting. ISBN #0-932394-04-3.

PRODUCT NEWS

Silk City Fibers, Winter '82 collection

In keeping with the renewed interest in natural fibers, Silk City Fibers offers a wide selection of beautifully textured, quality yarns for weavers, knitters and crocheters, with special emphasis on naturals.

Some of their most luxurious yarns are a 100% silk boucle, in natural, priced at \$12.50 per 4 oz. skein and a 3/25 alpaca yarn in 7 natural shades, at \$26.00 for 500 gr. (1.22 lbs).

Not all their yarns are in the higher price bracket. Pure silk yarns come as low as \$6.95/lb. In general, blends and synthetics are much lower, especially the mill ends.

The yarn collections of Silk City Fibers are shown on well-designed information sheets. The yarn descriptions include knitting and crochet needle sized whenever applicable. They include generous swatches, color information, the approximate yards per pound and the price per pound or per skein when applicable.

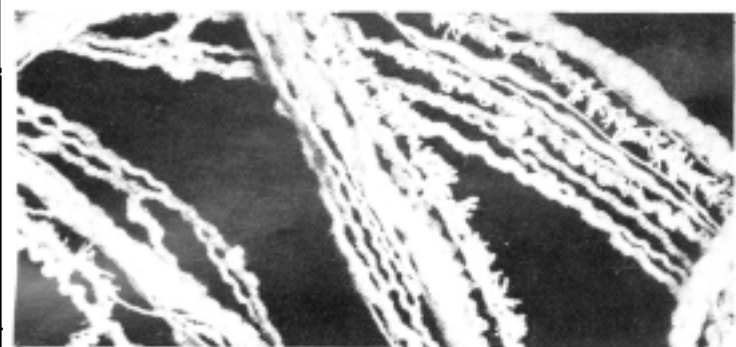
Silk City Fibers offers also a variety of unusual novelty yarns such as metallics, gimp and chenille.

There are minimums for mail ordering and substantial quantity discounts for the benefit of retail stores and home weaving industries.

A New Fiber Reactive Dye for Wool

Spectrum Dyestuffs announces that for the first time a fiber reactive dye for wool is now available for textile artists' use. This new dye is called SPECTRALAN and is easy to use in a recipe. SPECTRALAN is extremely colorfast to both washing and light. The colors are brilliant and they mix well to give a complete spectrum.

Send a SASE for a copy of instructions and a list of Spectrum Dyestuffs dealers to: SPECTRALAN, Spectrum Dyestuffs, PO Box 2904, Oakland, CA 94618.



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SILK: "SHANTUNG" 65% silk/35% wool, 10 colors. 100% silk tussah, 3 colors.

"SUNBEAM" YARNS: "SOFIA", "CILICIA", "MOHAIR", "SUMATRA" all in delicate colors & textures.

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PRODUCT REVIEWS

VIDEO LOOM II

This program is a completely-revised and greatly-improved version of the weaving simulator written by Howard Harawitz and discussed in the article "Computer Weaving" in the January 1980 issue of *The Weaver Journal*. It is written to run on an Apple II or Apple II Plus with 48K RAM, Applesoft Basic in ROM, and one disk drive configured for DOS 3.3 (16 sectors). A color monitor or color TV and RF modulator is necessary if one wants to take full advantage of the color effects. A printer (Centronics or Epson compatible) is required for making hardcopy of the design elements (warping, tie-up, etc.). If the printer has dot-graphics capability and is driven by a Grappler interface card, the graphics screen can also be dumped to the printer. This program (5¼" floppy disk and instruction manual) is available from Laurel Software, Suite 1234, 1310 College Avenue, Boulder, CO 80302 for the price of \$59.95 plus \$4.00 P & H. The Grappler interface card may be obtained from Orange Micro, Inc., 3150 E. La Palma, Suite 6, Anaheim, CA 92806 for about \$130.00.

This program simulates a 32-shaft loom with 64 treadles. After loading a main menu appears on the screen. There are eight choices: warp, tie-up, weft, treadling, weave full screen, save design on disk, load design from disk, and weave with keyboard (one pick at a time). When a selection is made a sub-menu appears. For example, if (1) above is selected, one gets a warp-mode sub-menu with four choices: color, thickness, spacing, and threading draft. The first three of these are also offered by the weft sub-menu (3). It is thus possible to assign a color, thickness, and spacing from its neighbors to every warp and weft thread.

When a sub-menu item is selected, either a sub-sub-menu or an editor screen appears. One always arrives at an editor screen eventually. It is on these screens that the design elements are entered. An important and valuable feature of this nested-menu arrangement is that the user can always go back to the next higher-level menu by hitting the ESC key, without losing any data or losing a chance to do something he or she forgot to do earlier. This is in contrast to some other programs where you suddenly find out that "you can't get there from here" and have to start over. About the only ways this program can be "bombed" are by hitting RESET or pulling the plug on the system. Error correction is also simple and fool-proof. Any editor screen (warp data, tieup, weft data, etc.) can be erased by Control-C without affecting any other. Any single entry on an editor screen can be erased and changed by moving a cursor to it and typing D (for delete) in the case of warp and weft screens or U (for untie) in the case of the tieup screen, and then entering the correct data. If a shaft is inadvertently

omitted from the threading draft, all is not lost; one moves the cursor and types I (for insert). All the shaft numbers to the right of the cursor are automatically shifted one space to make room for the skipped one.

When the data are all entered, one returns to the main menu and selects either "weave full screen" if a treadling sequence has been entered, or "weave with keyboard". If the latter choice is made, then the numeric keys 1-9 are used for the first nine treadles and the alpha keys A-Z for treadles 10 through 35. Any pick may be erased by typing Control-E. In the "weave full screen" mode the graphics are quite fast; the complete pattern appears within a few seconds.

Once the pattern is complete, (or at any time in the case of keyboard weaving), it can be rotated 90 degrees, i.e., the pattern appears with a vertical weft and horizontal warp. It may also be changed from what would be produced on a rising-shed loom (the default) to that which would be done on a sinking-shed loom. These flexibilities are unique to the program.

The data and graphics printouts are straightforward if one has the right hardware; one simply calls up the desired editor screen, puts the printer on line, and types Control-P. Saving to, and loading from, the disk are handled by clear and unambiguous sub-sub-menus. One may save all data for a design, or only the ones you need at the moment.

The documentation for the program is much above average in quality.

This program deserves the highest possible mark for "user-friendliness" on the basis of its menu-driven structure, the ease with which errors can be corrected, and the speed of its graphics. From the weaver's viewpoint, the great flexibility of selection of thread color, thickness, and spacing permits a freedom in design exploration that surpasses any program we have yet seen. The ability to rotate and/or invert a weave adds further to this versatility.

Since nothing in this world is ever perfect, we must now consider the program's weaknesses. To be fair we must emphasize that the major shortcoming is not the fault of the program's author, but is due to the well-known peculiarities of the Apple's high-resolution color graphics. Mr. Harawitz devotes almost a page of the manual to this problem; namely, the appearance of false and gratuitous colors in the drawdowns when colors other than black and white are used. The problem is at its worst when a tight weave (zero thread spacing) is used. In one test we used a blue warp and orange weft for an overshot pattern; we got red, yellow, white, and black in addition to

the desired colors. The result was pretty but had little relation to the desired pattern.

The only other shortcoming of the program is one which probably will always plague us; namely, the tailoring of a program to specific hardware for getting hardcopy. In this case we had no problem printing out the non-graphic design data, even though our parallel interface card is standard Apple rather than Centronics and our printer is an IDS-460 Paper Tiger. We were, of course, unable to dump the graphics screen without the Grappler card. We think that a software fix can be worked out so that our Computer Station screen-dump routine can be overlaid on (timeshared with) some of the program's machine-code subroutines.

To sum up, we find this program to be a very friendly and versatile aid to exploring a wide range of color and texture effects in textile design, and to be a lot of fun to use, even though the patterns it produces may sometimes bear only slight resemblance to the appearance of a piece of real cloth woven in accordance with the same data.

Earl Barrett



THE LOOM SLEYER

The Loom Sleyer is a beautifully designed, double hooked reed hook made of brass. I was attracted to it because of its beauty and its ease of handling, but was also pleasantly surprised to find that the smaller hook fits the eye of the heddles on my looms. Either hook works well on the narrowest reed slots. A happy blend of beauty and function.

The Loom Sleyer is available at the Colorado Fiber Center, P.O. Box 2049 Boulder, CO 80306. Price \$5.00 ppd.

Ellen Champion

COMING EVENTS

ARKANSAS

Mountain View. April 16-18, 1982. Ozark Foothills Handicraft Guild's 20th Annual Spring Show and Sale, Guild Fair Grounds, Mountain View, AR.

CALIFORNIA

Mendocino. Aug. 21-31, 1982. Second National Mushroom Dyed Fungi and Fibers Show. For details write: Clyde and Tigerlily Jones, The Artisans Guild Store, Box 1515, Mendocino, CA 95460.

Sacramento. May 1-2, 1982. 29th Annual Conference of Northern California Handweavers. Theme—"Festival of Fibers." Convention Center, 14th & J Streets.

COLORADO

Denver. March 29-April 16, 1982. Innovations in Fibre II: A national juried fiber exhibition. Sponsored by Skyloom Fibres in co-operation with Denver's Boettcher Concert Hall and The First of Denver Bank. For information send SASE to: Skyloom Fibres, 1905 South Pearl, Denver, CO 80210.

Durango. July 14-19, 1983. Intermountain Weaver's Conference on the campus of The Lewis College. Workshops, Seminars, Demonstrations, Commercial Exhibits. For information send SASE to: Lois Self, 8550 E. Cuin Pl., Tucson, AZ 85710.

Loveland-Fort Collins. May 1-June 27, 1982. 8th Annual Weaving and Fiber Show sponsored by the Northern Colorado Weaver's Guild. Show titled "Private Spaces, Private Lives" juried by Else Regensteiner. Exhibited May 1-31 at Loveland Museum; and June 4-27 at Lincoln Center Intimate Gallery in Fort Collins. For information write: Mary Lynn Harris, 230 Park St., Fort Collins, CO 80521.

WASHINGTON, D.C.

The Textile Museum. Feb. 26-May 15, 1982. A Century of Change in Guatemalan Textiles. Weavings from 11 key villages have been chosen as examples of this evolution to show how designs have changed during the last century.

Apr. 22-Sept., 1982. Coptic Textiles. The history of late Roman textile design as revealed by pieces preserved primarily in Egypt.

June-July, 1982. Ecuadorian Rugs by Olga Fisch. Rugs woven in the atelier of Olga Fisch, shown simultaneously in the Museum's exhibition and shop galleries.

July 10-Sept. 25, 1982. Oriental Rugs from the Hajji Baba Club collection. In celebration of the 50th anniversary of the oldest oriental rug society in America, the Hajji Baba Club selected 50 outstanding pieces from collections of past and present club members.

FLORIDA

Orlando. Apr. 23-25, 1982. Annual convention sponsored by Florida Tropical Weaver's Guild. Juried show. For information write: Jeanne M. Donnelly, Gainesville Handweaver's Guild, 4131 N.W. 39th Way, Gainesville, FL 32601.

INDIANA

Indianapolis. Apr. 6-30, 1982. Gayle & James Austin: Handwoven Rugs & Leather Objects. Indianapolis Museum of Art, Alliance Museum Shop, 1200 West 38th St., Indianapolis, IN 46208.

IOWA

Ames. July 8-11, 1982. Midwest Weaver's Conference hosted by the Iowa Federation of Handweavers and Spinners. Gerhardt Knodel-major speaker. For details, write Jane Ann Stout, 286 Design, Iowa State University, Ames, IA 50011.

Decorah. July 23-25, 1982. First Annual Exhibition of Weaving in the Norwegian Tradition. In connection with Decorah, IA Nordic Fest. For information write: Lila Nelson, Curator of Textiles, Norwegian-American Museum, Decorah, IA 52101.

KENTUCKY

Pine Mountain. June 18-20, 1982. 10th annual Fleece and Flax Guild Spinning Bee. Classes offered in: off-loom weaving, beginning spinning, spinning with experimental fibers, cornshuck craft, natural dyeing and quilting. For details send long SASE to: Bonny E. Wise, 673 High St., Charleston, IN 47111.

MASSACHUSETTS

Salem. Opens May 6, 1982. Functional Weaving—A Contemporary Approach. A selection of woven articles by Boston area weavers. Guest Curator, Anne L. Seamans. Peabody Museum of Salem, East India Square, Salem, MA 01970.

MISSOURI

Kansas City. Apr. 1-May 22, 1982. Missouri Fiber Artists' Fourth Traveling Exhibit. Juried by Diane Itter. Shown at "The Central Exchange" at Crown Center in Kansas City, MO.

Kansas City. May 21-23, 1982. Missouri Fiber Artists' conference. Keynote speaker: Virginia Jacobs. Mini workshops and tour of the Nelson Gallery Textile Collection. For information send SASE to: Lorraine Colbert, 4202 Harrison, Apt. 3 South, Kansas City, MO 64110.

NEW JERSEY

Laurenceville. July 29-31, 1983. The Mid Atlantic Fibre Association is soliciting re-

sumes and class outlines from teachers interested in mini-sessions of the 2nd Mid Atlantic Fibre Conference. For information, write Kava Schafer, Weisel Youth Hostel, R.D. 3, Quakertown, PA 18951.

PENNSYLVANIA

East Berlin. April 10-May 2, 1982. Annual Handweaving Show for handweavers and fiberists from United States and Canada. Categories include traditional weaving; hand-spun, hand dyed and handwoven; handwoven rugs; weaving you can wear; tapestry; weaving for home interiors; fiber manipulation. Send inquiries to The Mannings, R.D. 2, East Berlin, PA 17316.

WASHINGTON

Seattle. July 15-18, 1982. Convergence '82. Biennial meeting of the Handweavers Guild of America. Four day fiber extravaganza preceded and followed by workshops.

Seattle. August 1-28, 1982. Four week Crafts Tour to Visit South Pacific Region. For information send SASE to Michael Scott, 3632 Ashworth North, Seattle, WA 98103.

Tacoma. July, 1982. Handwoven "82" in Kirtredge Hall, University of Puget Sound. Juried by Peg McNair. Sponsored by Tacoma Weavers' Guild and Tacoma Fibercrafters. For information write: Aurabelle Walker, 3109 No. 29, Tacoma, WA 98407.

WISCONSIN

Sheboygan. July 17-18, 1982. Twelfth Annual Outdoor Arts Festival. Juried Exhibitions, workshops. For information write: Mary Jo Ballschmider, John Michael Kohler Arts Center, 608 New York Ave., P.O. Box 489, Sheboygan, WI 53081.

CANADA

The Comfortable Arts by Dorothy Burnham will be exhibited as follows: Apr. 24-May 24, 1982 at Vancouver Centennial Museum, Vancouver, B.C.; June 30-Aug. 1, 1982 at Musee du Quebec, Quebec City, Quebec.

Ottawa, Ontario. On tour: Norman MacKenzie Art Gallery, Regina-Mar. 6-May 24, 1982; Confederation Centre Art Gallery, Charlottetown, P.E.I. (tentative) June 19-July 18, 1982. The exhibition *The Comfortable Arts: Traditional Spinning and Weaving in Canada*. Assembled by Dorothy Burnham. Textiles, spinning wheels and other textile equipment, graphs, publications.

NEW ZEALAND

Masterton. January 20-31, 1984. World Congress on Coloured Sheep. Marketing, breeding, speakers, tours. For information, write Robert P. Williams, World Congress on Coloured Sheep and Their Products, R. D. 12, Masterton, New Zealand.

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PUBLICATIONS

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PATTERN DEVICES FOR HANDWEAVERS— 125 pages, illustrated: Practical information on mechanisms ranging from pick-up sticks to drawlooms, effective loom modifications, and instructions for damask, double weave, warp pattern, weft pattern. \$18.00 plus \$2.00 shipping. (MD residents add .90 tax.) DORAMAY KEASBEY, 5031 Alta Vista Rd., Bethesda, MD 20814.

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MISCELLANEOUS

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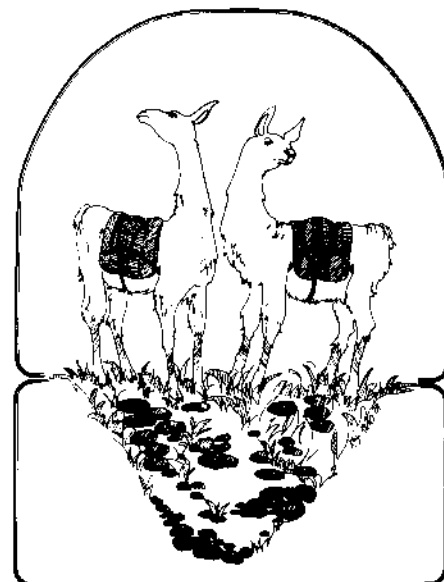
FIRST ANNUAL EXHIBITION OF WEAVING IN THE NORWEGIAN TRADITION, July 23-25, 1982, in connection with Decorah, Iowa, Nordic Fest. Registration to July 1. Write Lila Nelson, Curator of Textiles, Norwegian-American Museum, Decorah, Iowa 52101.

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Provides well-balanced, natural beating rhythm. Height and position adjustable. Holds oversize reeds. Laminated to prevent warpage. Massive.

SUPERIOR DESIGN

Open construction facilitates tie-up and dressing. Massive, laminated beams; breast beam lifts out. Strong heddles and tie-up eliminate fatiguing noise. Wooden wedges, not screws, hold frame tight and make relocating easier.

OUTSIDE RATCHETS

Makes full weaving width available. Easily released by weaver. Warping sticks facilitate accurate beaming.

CONVENIENCE FEATURES

Knee beam for weaving comfort. Adjustable bench (no extra charge). Cloth cover board keeps the work clean. Rubber feet prevent "walking".

...for some very good reasons.

You've probably admired the quality of Swedish weaving. But did you know that in Sweden...and in many other countries...more weavers buy Glimåkra looms than any other brand? Why? Because Glimåkra looms are traditionally designed, with features that have evolved and been developed by skilled weavers over the centuries. That rich heritage of continuing development, enhanced by modern production methods, assures the joy of Glimåkra weaving.

Crafted almost entirely by hand, your steady, sturdy, solid Swedish loom will be a working companion and source of pride for several generations. You can weave everything from fine fabrics to heavy rugs on ALL of our floor looms. And Glimåkra

offers more than a dozen weaving widths (20" to 72"), so you can select the loom that's "just right" for your projects. (For example, you get a full 48" finished project width on our 54" loom.) We also build damask, table, and large tapestry looms (up to 80"), as well as a line of professional, heavy-duty looms, some with weaving widths of over 11 feet! Our full line of accessories includes kits for long-eye heddle, double warp beam, and fly-shuttle attachments. Looms and accessories are stocked in the U.S.

Send for a catalog and yarn samples — you'll be taking the first step toward weaving in the Swedish tradition.

Dealer inquiries invited.

GLIMÅKRA... The Silent Loom, in the Swedish Tradition.™

THE GLIMÅKRA WEAVING CENTER

Rocky River (Cleveland), Ohio

- Over 20 Glimåkra looms (including tapestry and damask models) on display for demonstration and classes.
- On-loom and off-loom classes, beginning through advanced — some for college credit.
- Specialized classes in damask, tapestry, long-eye heddle and Swedish techniques.



GLIMÅKRA LOOMS
'n YARNS, INC.
 P.O. Box 16157 - WJ1
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 Rocky River, Ohio 44116 • (216) 333-7595



- Please rush the Glimåkra looms color catalog (English edition) to me. My check for \$2.00 to cover postage and handling is enclosed.

- Send me information regarding Borgs of Lund yarns.

NOTE: Present Glimåkra loom owners —

- Send me detailed information on the new, simplified, KNOTLESS tie-up kit.

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- Tell me more about THE GLIMÅKRA WEAVING CENTER