

SHUTTLE CRAFT

THE MONTHLY BULLETIN OF THE SHUTTLE CRAFT GUILD

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The Shuttle Craft Guild was founded in 1922 by Mrs. Mary M. Atwater and operated by her until 1946. Mrs. Martin (Harriet) Tidball was ownerdirector from 1946 to 1957. It is now owned and operated by

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From Weaver 70 Weaver

Dear Guild Members,

SHUTTLE CRAFT 1959 will bring you articles by Harriet Tidball, Mary E. Black, Boris Veren, myself—Joyce Chown, and Evelyn Longard as regular contributors, and from time to time we hope to bring you articles on special subjects by other guest contributors.

These names will all be familiar to you from contributions made in the past—except perhaps that of Evelyn Longard. Otherwise known as Mrs. John Longard, she is a resident of Halifax, Nova Scotia and a weaver with an interest in almost every facet of handweaving and, a particularly good knowledge of weaving theory.

The concluding article of Mrs. Tidball's summer and winter series appeared in the November 1958 SHUTTLE CRAFT. Mrs. Tidball will continue to contribute articles from time to time, for the particular interest of advanced and multiple-harness weavers.

From Bedford—and Halifax—we have been concentrating this month on "Fibers and Fabrics" which Miss Black introduces at the end of this "Weaver to Weaver". There are a lot more man-made fibers that we might talk about—there seems to be a new one come out of the chemical laboratories each day—and there is a lot more that could be said about the ones we have touched upon, but it is hoped that our experiments and suggestions will at least provide a starting point for weavers interested in experimenting with some of the "new" fibers.

March will again be an ecclesiastical issue and the April SHUTTLE CRAFT will bring suggestions for table linens. Also in April, Mrs. Longard will start a special new series of articles—but more of this in a later "Weaver to Weaver".

By the time this issue reaches SHUTTLE CRAFT readers, all *portfolio* subscribers will have received their portfolio annual: THE SETTS AND WEAVING OF TARTANS, which is a Tartan study by Mary E. Black. (Please let us know at once if you have *not* received it.) Boris Veren has reviewed this little booklet on pages and of this issue, in which he tells exactly what the booklet contains. We will not repeat here what he has already said so well—but we would draw your attention to our "special" on this booklet mentioned on the inside back cover.

Sincerely,

Jayce Chown 1

ROUND ROBIN LETTERS

We first discussed round robin letters in the "Weaver to Weaver" section of the February 1958 issue of SHUTTLE CRAFT.

As a result of this announcement one round robin group was formed, and the letters have been on the wing for several months; a second round robin is ready to go, and names for a third are now being compiled. Incidently our second one has three members in Australia—one in South Africa —one in England—one in the United States, and one in Canada. Truly international, and from individual letters we have received from members of this round robin group, we know there will be some interesting bits of information passing back and forth among the members.

Many weavers have written us that they think they would like to join a round robin group, but would like more information as they are not sure how the scheme operates.

Should you look in your dictionary for the definition of a round robin you would find the following—(our definition from Webster)—"A written petition, protest, etc., with signatures in a circle so as not to indicate who signed first." A present day round robin consists of letters written by members of a group, with similar interests, circulated among them in a predetermined order. Here at SHUTTLE CRAFT headquarters we file letters received from Guild members who have expressed an interest in joining a round robin. When six or eight letters have accumulated we list the names, arranging them in geographical order. After each name a date is added. These dates, two weeks apart, designate when the member should mail the robin on to the name which follows his or hers on the list.

Each member adds his own letter at the back of the file of letters he has received, leaving all the other letters in the order in which they lie in the file.

When the robin has made its rounds and comes back to the Shuttle Craft Guild we remove our first letter, and any samples or clippings we may have sent, then we write and put in a new letter and send the robin on its way again. All group members do the same.

The first round robin serves to acquaint the members one with another, the second round can well deal with members' weaving problems, successes, plans and special messages to individual members of the group, as well as to the group at large.

Complete instructions for mailing are included in each round robin package. There is no fee of any kind, the only cost to the individual member is the postage on the packet of letters to the next member. Instituting these round robin groups is one of the services you receive as a Shuttle Craft Guild member. One correspondent asks "Who is eligible?" Any Shuttle Craft Guild member can join; all that is required is a letter or post card expressing your interest, your name and address, and, if you have any special weaving interests state them also. Where possible we will try and arrange names so that those of similar interests will be grouped together. This may not be possible at first but should be at a later date as more weavers take part.

While checking our files recently we were interested in the number of men weavers who belong to the Guild. Some of these have belonged for a number of years, while others have joined recently. We can well understand their hesitancy in not wanting to join a women's round robin, as a man's approach to weaving is so entirely different from a woman's, so we would like to mention here that we would be happy to start a men's round robin group, all we need is six letters and it can be off.

If every member of a round robin group reads and digests the letters as soon as they are received, then sits down, writes his own and mails the package without delay, the robin should get back to us here at Shuttle Craft within three months. Then we will remove our own letter and put in a new one and send it on its way again. One thing we would like to do is to abstract items of interest from your letters for inclusion in SHUTTLE CRAFT because we know that some of your ideas will be of interest and value to all members.

If any member objects to having any of their material printed in SHUTTLE CRAFT or their name mentioned they have the privilege of so stating on their round robin letter, and we will honour their request. Where there are no "nays" we will conclude that we have the right to publish your letter in whole or in part.

There is time for letter writing in winter so *please* do "take your pen in hand", or dust off your typewriter and drop us a note advising that you would like to join a round robin *now*—we'll do the rest pronto.

King-sized Tablecloths

No matter whether you care for Danish weaving or not, you have to admit it lasts. For instance, when the Danish royal household decided it was time to order nine new tablecloths, it was discovered that the last batch had been purchased 92 years ago, in 1866.

The job of supplying the tablecloths fell to the small Copenhagen artweaving firm of Solveig-Hoerbye. The firm was flattered, to be sure, but the problems it faced were considerable since the dimensions of the tablecloths were $10\frac{1}{2}$ feet by 45 feet.

To handle the order Mrs. Hoerbye had to buy a new outsized loom. Then to find a place for the loom she had to build an addition to her home. Weaving the tablecloths took two long years of careful work. And though by all accounts the royal household was pleased with the results, Mrs. Hoerbye doesn't expect another such order for a long time. **FIBERS & FABRICS**

In the next few issues of Shuttle Craft we shall discuss fibers with emphasis on the classification and characteristics of the different fiber yarns available for hand weaving, and suggest some uses for the less familiar, as well as new uses for the more familiar ones.

There are two main classifications of fiber, (1) natural and (2) manmade. The history of the source and use of natural fibers goes back to antiquity; the history of man-made fibers falls largely within our own life span.

It is surprising how quickly and universally we have accepted the manmade fibers, and what a definite place they have come to fill. Practically every garment we wear, every bit of drapery material, car upholstery and floor covering with which we come in contact contains at least a percentage of man-made fiber yarns. These have come largely unbidden into our lives, but will doubtless remain. Some are durable, some have definite advantages over the natural fibers particularly in laundering, but it is questionable if they will ever completely replace the natural fibers. We will find ourselves building our wardrobes and choosing our household furnishings with an eye to the fabric which best suits the purpose for which it is to be used regardless of its origin.

Handweavers are already familiar with some of the fibers to be discussed, others will be new. To clarify our thinking and straighten out our confusion about the man-made fibers we are printing herewith, through the courtesy of AMERICAN FABRICS, a table classifying them and to help you with the identification of unknown fibers with which you may come in contact from time to time we are including a table of burning tests.

There are many yarns listed with which weavers will never come in contact as well as many which are neither suitable nor available for handweaving.

From time to time man-made yarns or materials with an unfamiliar name will come to your attention in the shops. For instance the label may read "cotron", further information on a small tag attached to the yarn or garment, will advise you that "'cotron'" is a trademark of the American Viscose Corporation for fabrics made of cotton and avisco rayon.

The handweaver may question the advisability of mixing man-made and natural fiber yarns. This is being done quite successfully by commercial mills so it seems logical for the handweaver to follow suit. In some cases the various fibers are mixed together to make the yarn; in others the different yarns are mixed in the warps.

There are however a few cardinal rules which should be observed before undertaking a web of mixed fibers. 1. The stretch of the two or three materials chosen may be entirely different, in which case, to maintain an 4

even tension two warp beams will be required. 2. Because of varying stretch of the yarns a seersucker effect may appear when the web is removed from the loom, or later during the finishing. 3. Dry cleaning is advised for some of the man-made fibers, so it is questionable whether or not they should be combined with yarns such as cottons or linens which thrive on soap and water. 4. Some of the man-made fibers require special equipment for finishing which is not available to the handweaver.

As part of our experiments with fibers we shall try combining various yarns and will give you a report on the results. It is quite possible that some of our members have experimented with the same, or similar fibers and have gotten different results, if so we would be glad to hear from you.

To the *Canadian Fiberglas Company* we are indebted for the samples of yarns tested and reported on by Mrs. Longard.

Our original intention was to photograph our saran and fiberglas experiment samples, but decided against this as a photo would not show up the various difficulties encountered.

Groups interested in a further study of these samples may borrow them for a 15 day period. A \$5.00 deposit will be required, this to be refunded upon their safe return.

The Man-Made Fibers

1. Acetate.

Trade names—Arnel, Avisco, Celaperm, Chromspun, Estron.

2. Acrylic.

Trade names—Acrilan, Creslan, Dynel, Darvan, Orlon, Verel, Zefran. 3. *Glass*.

Trade name—Fiberglas.

4. Polyamide.

5.

Trade names—Nylon, Perlon, Chemstrand, Caprolan, Rilsan. *Polyester*.

Trade names-Terylene, Dacron, Mylar, Durastran, Alistran.

6. Polyvinyl.

Trade names—Saran, Velon, Vinyon.

7. Polyethylene.

Trade names-Reevon, Wynene.

8. Protein Base.

Fibers from seaweed, skim milk, peanuts, soybeans, corn (zein). Trade names—Alginate, Caslen, Ardil, Merenova, Soylon.

9. Rayon.

Trade names—Bemberg, Coloray, Colorspun, Cordura, Enka, Fibro, Fortisan, Jetspun.

METHOD OF BURNING	Ignites easily and is not self- extinguishing, seems to melt rather than burn leaving charred beads.	Does not ignite easily, burns out leaving tarlike residue.	Softens, forming round bead, glows red then orange, leaves hard white bead.	Does not ignite easily, shrinks from flame, and is self-extin- guishing, no ash, melts leav- ing bead.	Difficult to light and self-ex- tinguishing, melts forming bead.	Moderately difficult to ignite, self-extinguishing.	Ignites and burns readily, and is not self-extinguishing, black or grey ash.
SMELL	Acetic.	Similar to burnt hair.	None.	Like fresh celery.	Aromatic.	Hyacinth.	Resembles burnt paper.
BURNING TESTS DESCRIPTION OF SMOKE	Blue wispy bits of smoke after flame is out.	Black smoke.	Orange.	Grey-blue puffs.	Black.	Puffs of blue smoke on removal from flame.	Bluish smoke after flame is out.
DESCRIPTION OF FLAME	Burns with pale yellow flame, mauve or blue at bottom.	Yellow flame.	Does not burn.	Orange edges, blue body with orange tip. Hisses while burning.	Burns with yellow body and orange tip.	Burns with bright yel- low orange tip. Bottom and edges green, spurt- ing yellow and green sparking.	Occasional sparks with orange and yellow edges and orange centre.
9 FIBER	Acetate	Acrylic (Acrilon)	Glass.	Polyamide (Nylon)	Polyestis (Dacron)	Polyvinyl (Saran)	Rayon.

WEAVING WITH FIBERGLAS

By Evelyn Longard

When we decided to investigate man-made fibers, fiberglas was one of the first to take our attention. It is not so new, being shown at the New York World's Fair in 1938, but only in recent years has it become important. Fiberglas was begun in 1930 by the Owens-Illinois Glass Co. It became used commercially in 1938.

It is made by melting glass marbles which are extruded through small holes to make filaments. There are two kinds of fiber for textiles, continuous filament and staple. Continuous filament yarn is made by combining many of these extruded filaments. To form staple yarn, the molten glass coming through the apertures is blown into short strands which are then spun together. The latter weaves into a slightly fuzzy material, while the continuous filament fiber gives a smooth, shiny material which is also thinner and stronger. Fiberglas, like its source, is unaffected by sunlight and very little affected by acid. It is fire-proof and only softens at 1380-1550°F. Fiberglas yarns have a limited stretch.

Repeated folding and rubbing will damage the fabric so it should not be used for upholstery or wearing apparel. It is used chiefly for fire-proof curtains and draperies and as a base material for electrical installations. It is also used as a facing material for insulating blankets. The process of "coronizing" is used commercially to relax the fibers, crimp the yarn and so set the weave. It also finishes the cloth with resins to resist abrasions and repel water. Launderability is also an important factor in the popularity of fiberglas fabrics. They can be hand-washed with care and never require ironing, starching or bleaching.

The fiberglas yarn we used came from Fiberglas Canada Ltd. and consisted of four different varieties, a "singles", a two-ply, and two boucles, one finer than the other. In appearance, the plain yarns were very shiny and smooth, while the boucles were dull and very soft. All were white.

It was decided to work first with the smooth threads so the first Experimental Warp consisted of section A warped from 2-ply yarn, section B from single yarn and Section C alternate single and 2-ply. It warped easily with absolutely no knots or twisting and it seemed to keep the tension easily. It was then threaded, both single and 2-ply yarns single in the heddle and the mixed warp alternating one in the first heddle and two in the next, all being threaded in twill. There was little difficulty in threading although the single yarn at 60/inch, 2-ply at 45/inch and the mixed warp at 45/inch. The warp was tied to the front and back beams with a moderate amount of difficulty, it being hard to tie knots firmly without the threads shredding or breaking. There was no difficulty in rolling the warp as it did not tangle at all and went on very smoothly. In fact, we had to

wear gloves while holding the warp as the slightest rough place on our hands would pull the smooth yarn. Sheds were good, a counter-balanced loom being used throughout.

The first experiment consisted in weaving in plain weave with 2-ply yarn, beaten as nearly as possible to a 50/50 fabric. This appeared as a shiny, rather stiff plain weave material. The same weft over the other two sections produced, over the singles warp, a somewhat similar fabric and over the third section, a very slightly ribbed fabric. Here, in the singles warp section, we noticed a distinct tendency for the warp threads to shred. We did not beat the weft in, but rather pressed it but they still shredded.

The second experiment was in using the singles yarn, again in plain weave. This gave a much finer fabric, shiny, but still rather stiff when woven over the same warp, and an effect very like the previous weaving over the other two sections. It took very slow deliberate weaving in order not to shred the fine threads and in spite of this care there was some breakage.

The third experiment on this warp was definitely a try for texture. Again in plain weave, the first shot was woven with the yarn double on the bobbin, the second, single, the third, double and the fourth, triple. This sequence was then repeated. This did give a ribbed effect but not nearly as much as expected. The ribbing showed very little on the other two warps.

The fourth and last experiment on the warp was using the 2-ply yarn treadled in broken twill, 1-2, 3-4, 2-3, 1-4. This was the most satisfying as far as "feel" was concerned. It was very shiny but had a softer feeling.

These samples were measured before and after taking them from the loom and found to lose very little in length and none in width because of the lack of elasticity in the yarn. They were then washed, just by dipping gently in warm water, rolled in a towel and allowed to dry over a rail. One objectionable thing was noticed, that the threads even in the close-sleyed (60/inch) fabric had a tendency to separate, which means that in use they would move and pull badly. No change in measurements was noticed.

The second warp was planned to use the boucle. The first part was warped as a spaced warp. It was decided to use stripes of two widths, the larger one consisting of fifteen threads and the smaller one of nine threads, in this order: larger stripe, 2 boucle, plain, boucle, plain, boucle, 3 plain, boucle, plain, boucle, plain, 2 boucle. The smaller one consisted of 2 boucle, plain, boucle, plain, boucle, plain, 2 boucle. The other part of the warp was made up of boucle and plain yarn warped together in equal parts.

From the beginning this warp gave trouble. The boucle had to be under constant tension or it would wind back on itself and, we might add, catch on anything which was near. As soon as the tension was released, i.e. the warp taken from the warping board, all ends seemed to wind themselves around each other until, even with the greatest care and patience in handling, threading became a time-consuming project. The larger stripes were threaded and the smaller ones

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while the second part was threaded in twill, using the threads at random. After threading, each group was tied immediately in front of the heddles and even then when we were ready to red it, those ends were so tangled that it took hours to sley. The stripes were sleyed in a 15-dent reed, 3 per dent for five dents, skip 3 dents, thread 3 per dent for three dents, skip 3 dents and so on. The other section was sleyed 3 per dent. There was some difficulty on tying to front and back beams because the plain threads wanted to slip and shred while the boucle wanted to curl up on itself or on other threads. When it was finally ready for weaving, we had some trouble getting a shed due to threads sticking to each other. This happened in both the spaced warp and the other. After a bit of manipulating, the shed cleared itself and from then on wove quite well.

The spaced warp was woven as threaded, i.e. the large stripe was woven with 15 shots in twill, then a skip of a distance equal to 3 dents, then the small stripe with 9 shots of twill. These stripes were warped with boucle at both sides, hoping to avoid slip. They were also woven with the first and the last shot of boucle for the same reason, and in no case was the last treadling of one the same as the first of the next one. This spaced fabric looked very good in the loom and had a good feel.

The next section was woven in broken twill with one shot of plain yarn followed by two of boucle. On the spaced warp it gave rather shadowy open-work stripes and on the close-set warp a very good all-over boucle fabric with not as much shine as in Experimental Warp #1.

Then both these experimental pieces were washed as the other, very gently. The spaces almost disappeared in the open-work sample in spite of the boucle. The boucle seemed to contract in the open spaces causing bubbles in the fabric. The over-all boucle seemed to be unchanged, and neither part did any shrinking.

Since its resistance to fire is one of the chief reasons fiberglas is used for fabrics it was thought that the use of other man-made fibers with it would offset its great advantage. For this reason combinations of fibers were not used. The same effect of shiny yarn and boucle could be achieved with rayon yarn.

A noted disadvantage to the use of fiberglas for handweaving was that particles of fiberglas were being shed constantly and settled, not only all over the loom, but on the weaver, face, hands, dress and even in the throat. They were quite irritating. Perhaps there is a process through which the yarn could be put to prevent this.

In conclusion, because of the great difficulty in warping the boucle, the threading, reeding and weaving of both kinds, and the rather disappointing samples that were produced, we are of the opinion that fiberglas in this weight and of this kind is not a practical material for handweavers. References: American's Fabrics Zelma Bendure and Gladys Pfeiffer

Textile Fabrics and their Selection Isabel Wingate

Cuprama

Cuprama is another of the man-made fibers which we had not used in our weaving so chose it for one of our experiments.

This man-made fiber is "a rayon staple fiber, wool like in characteristics, and made from a cellulose base. It is made in 2-to 20-denier sizes and staple cuts range from 1 9/16 inches to 6-inch lengths. Cuprama can be dyed naturally and much of the product is now dope-dyed or solution dyed."*

A similar yarn is available from Searle Grain under the name of "Dacryl". Mrs. Rankine describes it as "a substitute for wool or cotton, suitable for place mats, skirts, drapes, spreads, upholstery, window curtains, etc. Washable, fast colors, shrinks a bit in washing but a good inexpensive, easy to handle yarn in many colors."

Dacyrl and cotton compare favorably in price, with cuprama being somewhat cheaper. Both can be purchased in sizes comparable to cotton, viz: 2/16 and 2/8.

If you are looking for a material for shorts, skirts, slacks, suntops and children's play clothes which will stand up to hard wear and frequent trips through the washer we suggest either cuprama or dacryl. Both of these yarns have more body than a nylon of comparable size, and are not as soft.

One fault we did note with the cuprama was that the threads did not stand up at the selvedges. To offset this we threaded four cotton threads of the same color and size as the warp, at both selvedges. This yarn and the use to which the finished fabric is to be put suggests speedy weaving so both threading and treadling were kept as simple as possible in our experiment.

On a two harness loom thread as for any plain material and on a four harness, thread on a plain twill.

If decoration is wanted it can be achieved in various ways. For the two harness weave we suggest the insertion of one, two or more heavy self or contrasting color threads at either regular or irregular intervals. Graduated stripes of color could be woven in, to come at the bottom of the skirt or the bottom of the legs of the shorts. The child's favorite colors could be used. This as well as pleasing the child could serve for easy identification when laundry is sorted. The little slip-on dress shown in the sketch, easy to make and wash, could be made of this material woven of 2/16 cuprama.

If the warp is threaded on a four harness twill graduated rows of self or contrasting color could be treadled twill on a plain weave background. Self color is suggested to save time. If colors are desired wind the warp in stripes and weave with a single color or in tri-color squares. We used three squares of 48 threads each, one bright light green, one dark bright green and the third a bright blue. The finished cloth was bright but not

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^{*}George E. Linton, The Modern Textile Dictionary, (Little, Brown & Co., 1954).

Warp: Cuprama 2/16 in light green, dark green and bright blue. Weft: Same as warp Reed: 16 or 18 ð υ <u>Sley</u>: double. 0 D 0 0 0 mmillioù Warp order: 48 thread each light green dark green bright blue 11



light enough to soil easily. Substitute this season's "wood violet" for the light green or choose your own colors. Any color scheme found in nature will go happily under a summer sky.

We tried 2/16 sleyed at both 30 and 36 threads to the inch. Sleyed at 36 to the inch with a 2/16 used for weft, it produced a 50/50 web, firm but not hard. Sleyed 30 to the inch the resultant web was sleezy with the weft slipping out of position leaving gaps in the web wherever pressure was exerted. With washing this tendency disappeared and this loosely woven sample had an elasticity not usually found in handweaving. If a 15 dent reed is the only size available, use a 2/8 weft, or two, size 2/16 threads wound together on the bobbin, beating to achieve a 50/50 web. One of the cuprama threads in white, marked 2/8 consisted of 2 strands of 2/16 wound, but not twisted together, on the cone.

The results from sleying the 2/8 cuprama at 24 threads per inch were better than sleying at either 20 or 30. At 20 threads per inch the web was loose but filled up to a nice light weight fabric when washed. This is a good weight for peasant type skirts and shirts, or drapes.

Set at 30 threads per inch it was very firm, quite suitable for men's and boys' shorts, upholstery or cushion covers for camp, sun-porch or recreation room, and shopping bags, or matching plaid and plain sport outfits.

A sleying of 24 threads per inch produces a very good fabric for women's shorts, beach jackets, skirts and sun tops. Treadle produces either plain or twill, the twill treadling produces the heavier material.

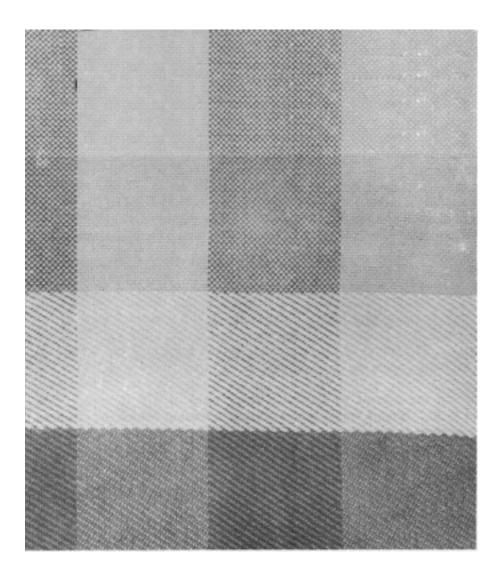
We must confess that we were a bit disappointed with our experiments when we took the various samples off the loom, but changed our minds after washing and ironing them. The 2/16 ones, we felt were much more pleasing to than a 2/16 cotton. There is considerable shrinkage as we found when comparing the measurements of the washed and unwashed samples. It would be wise to allow what you usually do for your cottons plus 5 to 10%additional. This may seem like a lot of wastage but remember that cuprama is much less expensive than cotton. As this is a new venture with us we have not been able to compare the wearing qualities of this manmade yarn with cotton, but perhaps those of you who weave some for play clothes for your active youngsters will give us a report on its durability next fall.

Cuprama is advertised as ultra-colorfast; and did we mention that it comes in a full color range in both the 2/8 and the 2/16?

The following description of "dope-dyeing" is, we think, a very pertinent addition to Miss Black's cuprama experiments. This description again is from George E. Linton's *Modern Textile Dictionary*.

"Dope Dying: After the solution (of acetate) used has been prepared and filtered for purification, dyes are introduced into the solution. The solution is then extruded through spinnerets and then dried in the usual manner. Thus, the color has become a corporate part of the filament itself, caused by the color and the fiber bonding together. "Much skill has to be used by the dyer as to how much dye to place in the compound in order to achieve the desired shade; only experienced dyers can do the work to commercial satisfaction.

"Also known as 'solution-dyed' and 'spun-dyed' the method has met with acclamation in the trade, wherever used. Dope-dyed cloths have splendid fastness to light, the colors are genuinely good and attractive, and the colors are not washed out in laundering. The method is ideal in plaids, checks, stripes and in solid colors. In dope-dyed fabrics it is practically impossible to remove the color should it be desired to re-dye the goods."





Saran

Our experiment with saran was prompted by our search for a material which would serve for boat cushions, lawn furniture and other uses where it would be subjected to hard wear, weather, and winter storage.

Saran monofilament was first used during World War II for screening. It proved to be rust and stain proof and stood up to the challenge of tropical conditions. Since the war its greatest volume of use has been for automobile seat covers. It is resistant to oil stains, moths, etc., and is long wearing; it does not collect dust and is easily cleaned with soap and water, and is wrinkle proof.

For our experiment samples of Saran Monofilament 4000 R (0.012'' dia.) were forwarded to us by the manufacturers. In Canada Saran is manufactured by Richmond Plastics, Richmond, Quebec. It cannot be purchased in less than 100 lb. lots of a single color, and each order is processed as received, there is no stock piling, and there is a charge for the spools. The price varies according to the color running at approximately \$1.43 per lb. in 100 lb. lots.

The coloring is mixed in with the medium from which the thread is spun so it holds its color well. It softens and melts under extreme heat but will not support a flame. Recently the fiber has been utilized in the manufacture of carpets and for draperies, and is being tested experimentally, in combination with other fibres, for the manufacture of suitings and overcoats.

Results of our experiment using Saran for handweaving led us to the conclusion that it is a difficult yarn to use on handlooms as it needs to be woven under greater tension and with heavier beating than is possible with the average handweaving loom. Somewhere in the subconscious it seems to me I recall that handweavers elsewhere had successfully experimented with Saran. The source of the reference does not come now, but we should like to exchange notes on this—as well as on other fibers with which we have experimented—so that we can bring the whole story to our members.

For our experiment we wound a short warp of 576 threads. This weighed $\frac{1}{4}$ lb. Though warping was done at a tension before the required number of threads were wound the first threads hung loosely on the warping reel. Before removing from the reel the warp was tied very securely in several places. Although the sample was only 16 inches wide it was difficult to get an even tension on all threads, even with an assistant holding the warp very tightly during the winding. Tieing on also presented problems, even the small bouts had to be retied several times, and extra knots were employed. It could not be decided whether the threads resembled horsehair or rubber. It was threaded to a 1, 2, 3, 4 twill, and sleyed at 36 threads to the inch. Black, yellow, white and red were used.

Curiously enough, like many cottons, wools and linens which we use, the different colors seemed to have a slightly different feeling. The black threads seemed to be slightly finer and were difficult to see both in the warp and in the weaving.

Our weaving routine was as follows: insert shuttle, hold thread in position at selvedge, close shed, beat hard, change shed and repeat. Actually the beater was forcing the threads in place about 4 or 5 threads back of the fell, rather than at the fell. It was very difficult to beat the threads into position as they were very stiff and full of electricity. There was little or no difficulty with selvedges and there were no broken threads. The finished web was unpredictable, seemingly affected by the weather. Though the tension on the loom was released at night, in the morning the web was tight in some spots, loose in others. We discovered too, that a hot iron could not be placed directly on the material as it stuck to it.

In a letter from the Company the writer states "most commercial Saran fabrics, such as automobile seat covers, outdoor furniture, tapes, etc., are calendered which simply means that pressure and heat are used to flatten the filaments in the fabric. We doubt you will have the equipment available to do this with handwoven fabrics, and your fabric will therefore look somewhat like the tapes in the standard color folder."

We convinced ourselves through our experiments that Saran was not suitable for handweaving, at least not for us, so we have written it off our list of desirable yarns.

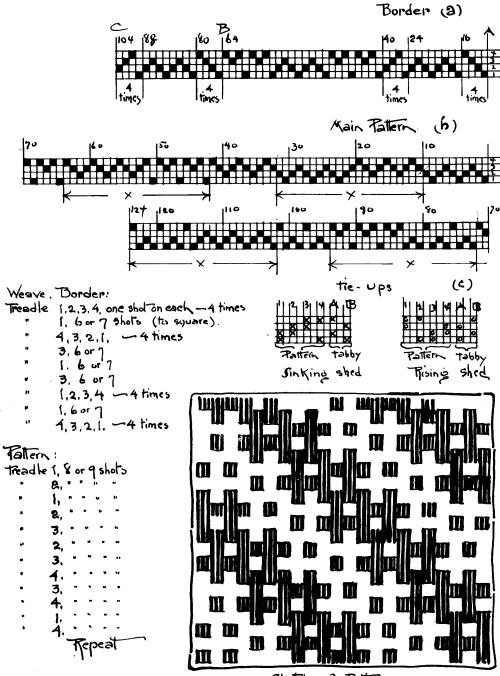
Colors This Summer

---for summer fashions are light or dark but always bright. They're a delight to the eye and some of them sound equally delightful to the palate. They are grenadine (red), mint green, burnt orange, wood violet and wedgewood blue (dark). Mix them in checks—of blue, green and violet cuprama, cotton or rayon; in combination with basic black or white—burnt orange and black cotton and rayon check, multi-colored stripes on bleached white ramie background, or grenadine and white mercerized linen in a big houndstooth; in an iridescent plain weave—blue on green, blue on violet, orange on red, blue on red, violet on red; or weave them in solid colors with textured threads or weaves.

Iridescence

Iridescence is defined as "a rainbowlike play of colors, as in the soap bubble, mother of pearl etc." (Webster).

This effect is easy to obtain in handweaving by using a warp of one color, a weft of another such as red and blue; yellow and orange; green and gold; blue and green etc. Use fine threads, preferably those with a sheen, sley closely and beat closely. The resultant web will glisten and the colors will appear to change because of varying lights on the surface of the fabric. Many silks, taffetas, and very fine cottons are woven in this manner, and are a pleasing relief from the plain and figured materials.



Sketch of Pattern

EXPERIMENT

by Mary E. Black

Take any given draft and experiment with it. For our latest experiment we chose this crackle draft of Mrs. Atwater's because we liked the pattern design running on the diagonal rather than in the usual verticalhorizontal direction.

Experiment may entail threads, re-arrangement of draft to change design or size, or it may concern color or other factors.

We undertook our experiment with an open mind and no preconceived ideas. Because of time and space limitations (that is space in *Shuttle Craft* as there does not seem to be any limitation to outer space anymore) we had to stop our experimentation before we hardly began. However we give you here the results of what we did accomplish with the hope that you will carry on from where we left off and will give us the benefit of your discoveries.

We used man-made fiber yarns throughout because of our present interest in them, and not because the experiment could not have been worked out just as well with natural fiber yarns.

For warp we used a 2/16 white rayon, set 30 threads to the inch, Using the same for weft a plain 50/50 web was obtained. The sheen of the white rayon, even in plain weave was very attractive.

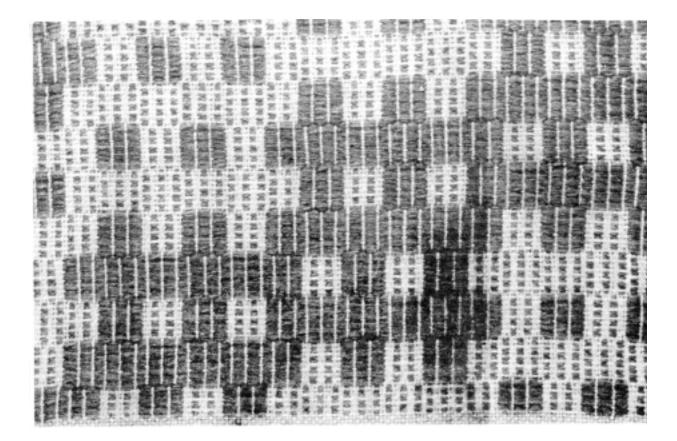
The present day rayon is so far removed from the rayon that burst upon us in Occupational Therapy shops across the nation at the close of the first World War, that it is difficult to find any similarity between them. It was called "artificial silk" and was probably the first man-made yarn to come into common use. The fiber itself was somewhat stiff, extremely slippery and shiny and oh, the colors! I suppose we were at fault because we used equal proportions of gold and purple or paddy green and shocking pink together in large overshot patterns, but we had little else to use and how the boys loved those colors.

Today the choice of materials seems almost unlimited and with a basket of odds and ends to chose from, let us begin.

In her directions for the draft Mrs. Atwater suggested that the main parts of the pattern, which lie within the sections marked "X", may be repeated twice if desired. This we did for our initial experiment, as we had in mind a design suitable for a bedspread. We did not bother with a border, about which Mrs. Atwater wrote "the border threading given is plenty wide for a single bed, but if coverlet is for a wider bed repeat twice that part of the threading which lies between A and B." Mrs. Atwater suggested using a 10/2 cotton sleyed at 24 to the inch for a spread.

No. 1 shows the result of our first experiment.

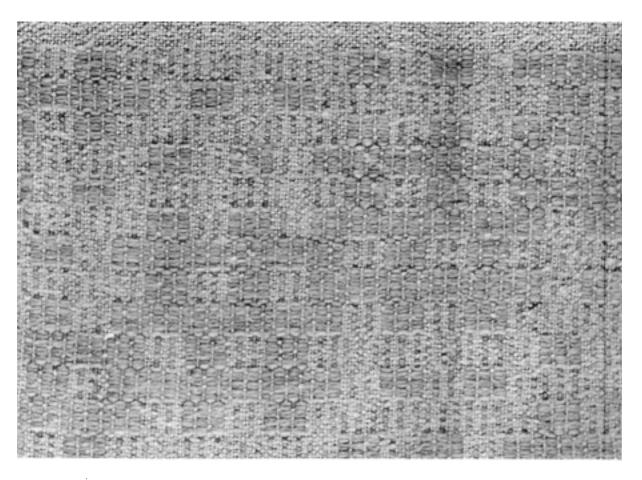
Three strands of very fine, 2/16 rayon, in three shades of red were wound together on the bobbin. The resulting web was clear cut red and



white and showed the pattern design to advantage. A bedspread, couch cover, or draperies woven in these materials and colors would be quite suitable for cottage or boy's room, Quite easily and safely washable.

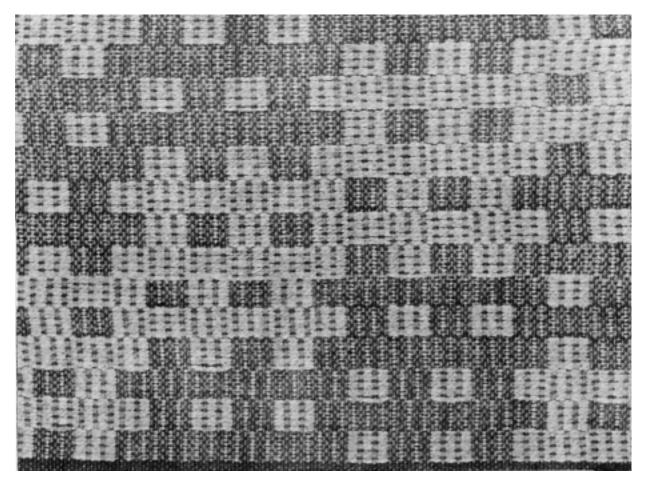
18

No. 2 same as No. 1 except that a red rayon boucle was used for the pattern. The result is textured, with the roughness of the material cutting the clearly defined pattern lines. This weight is quite suitable for upholstery with weavers own choice of color. Throughout the experiment we noticed that the results were more pleasing when warp and tabby threads were of the same color, though not necessarily of the same material. In one instance results with a colored tabby were satisfactory but on the whole the white tabby was better.



No. 3. For this experiment a very fine, white rayon boucle was used for tabby with a soft dull mauve nylon pattern thread, about a 2/8 cotton size. The effect here was subtle and pleasing.

No. 4. Here contrast in color, with the pattern standing well out from the background, in contrast to the receding effect in No. 3 was obtained by using a fine dark green rayon tabby and a 2/8 white rayon for the pattern. (How many bright-eyed weavers have spotted our threading error in this sample)! The background areas in this sample have a shaded effect, yet when viewed from a distance as a spread or drape would be, the effect is one of coolness.



While weaving this the crosses came up so clearly that we wondered if perhaps this would be a good, all-over design for ecclesiastical weaving. So for our next experiment we tried gold lurex for tabby with white crosses of 2/8 rayon. Fundamentally the idea was good, but the general effect was garish. A more careful choice of materials and further experimentation were indicated. Where an all-over damask-like design was desired this draft does have possibilities. What a small sample fails to illustrate is the overall design of several repeats of both draft and threading. If any Shuttle Craft Guild members have used this threading for ecclesiastical weaving we would like to know how it turned out.

As the experimental weaving proceeded we did notice that the background areas between the pattern areas were pleasing, and in a large piece would doubtless form interesting pattern areas of their own.

Experiments with different threads and colors on this threading could have been carried on almost indefinitely, but we had satisfied ourselves that it had many possibilities, limited only by time, available materials, and personal color choices.

Another reason that this draft appealed to us was because it could be enlarged or reduced at will. As we had already enlarged it for our first experiment we decided to thread it as originally written, with the same warp as used for the first group of samples.

For our first sample on the reduced threading a natural color chenille with a gold tabby was used. It had absolutely nothing to recommend it, nor did the second sample using a fine turquoise rayon tabby and white rayon boucle. They had best be forgotten.

The next two with fine turquoise rayon tabby and 2/8 slate blue rayon pattern thread were very uninteresting. For the next sample a white tabby was used. Still no favorable results. Almost, but not quite discouraged we returned to the fine white rayon tabby and the mauve nylon or cuprama.

No. 5. This time we were quite pleased with the result, which suggested springlike bunches of small flowers on branches.

For this effect the treadling was—

Treadle 1—4X	Treadle 3-4X
2—4X	4—4X
1—4X	34X
Treadle 2-4X	Treadle 4—4X
3—4X	14X
2—4X	44X

This design would lend itself to guest or master bedroom and would be suitable for bedspreads and drapes sleyed loosely, and in a closer sleying, for bureau covers, cushions and upholstery. One thing to guard against is going all out with one design for everything in the room. Keep textiles harmonious but do forego too much repetition. We like this design so much that we plan to use it in a forthcoming issue for a special project. No. 6. Treadling each block 12 or 14 times instead of four as used above produces an entirely different effect. A large bold, clean cut design appears causing the query "were those both woven on the same threading?"

And so it is with experimental weaving, we never quite know what lies in the next experiment, but it is fun.

Stoles

are back in favour but this time as a small fitted cape rather than as a long gossamer web, or so say the fashion experts adding—"fashion decrees that stoles should be shaped to fit snugly on the shoulders, and stay there." This sounds a bit like the younger sister apeing the "little mink cape."

A cape type of stole calls for an entirely different approach to our weaving, with concetration on an allover fabric, rather than on a studied placement of stripes of color, novelty yarns, and alternate placement of lacey and opaque areas. These new stoles require careful tailoring, then there is the problem of the fringe to finish the edges, the fastening, and we may ask how can they be packed without wrinkling?

At this writing we do not believe that the skilfully draped stole, which adds glamour to any costume and to any woman, has gone. It, like the crinoline, the cashmere sweater, and the car coat, have become a standard item in our wardrobes and is here to stay. One of its virtues is the ease with which it packs and can be cared for. A swish through mild suds, a rinse, an hour rolled in a bath towel, a moderately warm iron, and it is ready for trip or party.

Perhaps we should conjure up some new ideas for our stoles which fashion writers describe as "a long flat piece of fabric". Perhaps we should spend more time on designing them, choosing our materials and forget about "Oh, I can weave two stoles in a day"—etc. Perhaps we should use different materials in combination with our fine wools—silks, nylons, rayons and forget for awhile the white wool with the gold and silver borders. There are many fine materials available, all that is needed is a new idea. Perhaps *you* will be the one to think it up, if so won't you tell us about it?

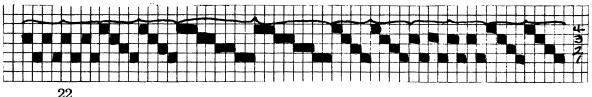
LOOM LANGUAGE

A member wrote in to us "note, don't you mean *pawl*, not prawl, page 24, Loom Language, Dec. SHUTTLE CRAFT"?

Yes, indeed, we do mean *pawl*. Sorry and thank you Mrs. W. Editors.

ERROR

Please note that the draft on page 20 of the August-September 1958 issue of SHUTTLE CRAFT should read as follows:



Weaving Patterns and Samples

Article Lamp Shade Material Sample woven by S.C.____Date Completed Jam 259 Pattern classification Jestime_____Pattern name _____ Pattern source Original _____ References_____ Results & atisfactory, when beaten approx 12/10ch. Uses ___ Loom 4 harness_Reed 15 dent_____Sleying single Materials: Warp See Jelow Size _____ Color_____ No. threads wound No. yards wound &_____Weight of warp chain _____ Weft same_as_warp_Size____Color____Color____ Pattern thread ______Color _____Size _____Color _____ Approx. cost 75_per_yard_____Sales price_____ Number of threads to one complete pattern unit _____ Threading Draft - twill Warh-Ireadling - plain weave Ithread each of -Weft- follow-warp order. 14 lea linen- natural 4/8 cotton-white cotton bouck- natural 4/8 cotton - white atton bouch natural mylon- white. 14 lea linen 4/8 cotton - white cotton bouch Nylon- white 14 lea linen 14 lea linen-natural. 3 cotton bouch

From Man-Made To Natural Fibers

by Joyce Chown

As a transition from man-made fibers to natural fibers, we wove this material of half and half—the warp of cotton and the weft in rayon. Neither of these threads are new to handweavers, cotton being probably our most used fiber, and rayon being the oldest man-made fiber and one used by handweavers in one material or another for years.

For this dress we wanted a fairly light weight fabric that would drape softly for unpressed pleats. For design and color we wanted something bold and bright, and with the bold and bright color and design we felt that the weave should be kept as simple as possible.

We tried using 2/16 unmercerized cotton for both warp and weft but found this combination made the fabric a little too stiff, and also rather dull in appearance. We also tried 2/16 rayon for both warp and weft. The resultant fabric was not in the least stiff, on the contrary it draped so softly we felt it would look like a limp rag if made into a skirt or dress. The all-rayon fabric was also very shiny—too much so for the type of dress we had in mind.

Combining cotton and rayon gave us the fabric we wanted: not too dull, or too shiny and not too stiff or too limp.

The 2/16 cotton was sleyed 30 threads per inch—double in a 15 dent reed—in alternating $1\frac{1}{2}$ " stripes of rust and black. The threading was for plain weave, and the 2/16 rayon was woven in the same sequence as the warp: 1 stripe rust (or burnt orange) and 1 stripe black.

This material woven at the suggested sleying gives a good 50-50 weave. If you tend to beat heavily, 32 threads per inch will also give you a good 50-50 fabric.

And with "this season's colors" in mind, you might prefer to try a bright and bold summer check in violet and navy, or bright skipper blue and black.

For weavers who do not have 2/16 cottons and rayons on their price lists, we suggest you use Lily's unmercerized cotton 20/2 warp yarn for warp, sleyed 36 threads per inch, and Lily's #20 perle cotton for weft. For the sample described above, use #1457 burnt orange and #441 black for warp, and #1261 dark orange and #441 black for weft. For the alternate color schemes use #409 orchid and #522 navy for warp, and #408 lavender and #637 purple navy for weft; or, #920 skipper blue and black for warp and the same colors in perle #20 for weft.





Aluminum

During our research on fibers we inquired about aluminum yarns, wires and rods which might be suitable for weaving.

For a number of years we have used metallic yarns in our weaving, and these we find under various trade names. Some of these yarns are good, some fair and some of very poor quality. Among the best of these are those with an aluminum base re-inforced with an extremely fine nylon thread. We have all used these yarns so extensively that there is no object in repeating here facts with which we are all familiar.

At Christmas the stores were calling our attention to the decorative value of festoons of narrow aluminum strips. Some of these were in natural aluminum, others in red, blue or green.

Curiosity prompted us to experiment with them in our Christmas weaving. The strips are about $\frac{1}{8}$ " wide and inclined to be brittle. They did not lend themselves to winding on either bobbin or flat shuttle so we cut random length pieces and laid them in the shed with our fingers to follow our chosen design or laid them in at random. We found that the strips did not turn around the selvedge threads successfully so we kept our design well inside the selvedges. These strips gave a certain flair to our Christmas tree skirts and Christmas card material. While weaving it we hoped we would come up with some brilliant idea for its use but we didn't. The only idea that suggested itself was its use for theatrical curtains, screens, room-dividers or wall hangings. These we felt should be designed to express whatever the theme or mood of the production called for. We wondered if a hanging in greys-shiny against dull yarns, or smooth against rough, could not be very striking. Something special could be worked out with the strips laid flat in the shed and carefully beaten back or twisted and crushed against the fell with the beaten-one suave, the other confused. Choice of threads for warp and sleying would depend entirely on the article being woven and its proposed use, but it is suggested that a widely spaced warp would not conceal the innate beauty of the aluminum as much as a closely set one.

There are many sizes of wires and rods available in both natural.aluminum and colors which would be suitable for room dividers, exotic place mats, plant pot covers, lampshades and waste paper baskets. These wires and rods are sold by the foot or can be specially cut to your own measurements. They are not cheap but certainly would be durable as the aluminum strips we have discussed are fragile. Weaving with these aluminum wire and rods, it seems to us, should appeal to men weavers.

The aluminum company representatives with whom we talked advised that contact be made with the aluminum company in your locality for details of availability and price. He also suggested that rods or wires be treated before use to prevent discoloration.

We See By The Papers

Luxurious

We were so overawed when we recently read the following in the New York Times, that we felt we wanted to share it with SHUTTLE CRAFT readers.

It will be of particular interest to rug weavers and certainly of passing interest to others.

The report on this magnificent rug by Robert Alden reads as follows:—

"An Oriental rug was put on sale recently at the Fifth Avenue store of W. & J. Sloane.

"Two Pinkerton guards stood by. It seemed hardly likely, however, that anyone would be able to make his way out of the store with the rug. It measures 24 feet 9 inches by 15 feet 6 inches.

"The salesmen had all kinds of romantic stories to tell of the origin of the rug. But when Oscar A. Arcara, assistant manager of the department, came along he dismissed the tales as idle gossip.

"The true origin of the rug, a masterpiece of the art of Oriental rug weaving, is obscure. It is probably forty or fifty years old. It is difficult, in many cases impossible, to date Oriental rugs accurately.

"The rug was woven in the small town of Hereke, in northwestern Turkey, near the Sea of Marmora. The style of its weaving indicates that the makers of the rug had migrated to Hereke from Kerman in Iran.

"The rug is woven of silk and silver threads and contains 100 or more shades of soft colors. The shades change as the light catches its nap at different angles. It is not a thick rug, but oriental rugs are not judged on their thickness.

"An American passing through a bazaar in Istanbul in 1921 saw the rug. He left Turkey, but the beauty of the rug haunted him and he returned and purchased it during the same year. It is now being offered for sale again for the first time.

"Mr. Arcara said that there was no question but that the rug had originally been commissioned by some very important person.

"'We can tell by the number of knots in the rug, 29,000,000 at 540 to the inch, that it would take six weavers ten years to make the rug. No one would invest that much time and effort unless some one were underwriting the cost', Mr. Arcara said.

"Oriental rugs of such high quality have tragic overtones too.

"'When you tie 540 knots to the inch, as was done in this rug, it is a tremendous strain on the eyes', Mr. Arcara said, 'The weavers frequently go blind and die young'.

"He pointed out that it was remarkable that the man who commissioned the rug was able to find a group of weavers whose style was so similar that it is impossible to note differences in the tightness of the weave. The rug gives the appearance of the work of a single man.

"And the asking price? A mere \$250,000!"

THE WEAVER'S BOOK SHELF



Dear Mary Black, (and anyone else looking over your shoulder)

Thank you so much for sending me today the manuscript of your new book THE SETTS AND WEAVING OF TARTANS which the fine firm of Lily Mills Co. is publishing and which is the "annual" present for your "portfolio" subscribers. I have been procrastinating too long, and a book review should have gone to you a long time ago. Now, after reading your fine book in manuscript, I think I can get to work. But first to let you know the idle thoughts that are part of a bookseller's procrastination, and specially those whims and fancies that preceded this article, for I had been thinking, believe it or not of Scotland.

Recently I purchased for one of your Shuttle Craft Guild members, Mrs. George J. Lincoln Jr., a Scottish import, a book no less, called: VES-TIARIUM SCOTICUM, from the Manuscript In The Library of The Scots College at Duay, with an Introduction and Notes by John Sobieski Stuart, published in Edinburgh in 1842.

This is probably one of the rarest books on Scottish Tartans and costumes. I originally heard from Mrs. Lincoln Jr. asking that I try to locate a copy of this book which she had seen in a friend's library, and which she had coveted for many years. I did not know of the book, and she wrote me: "At any rate it is all about Tartans. It is supposedly, the first authentic book on legitimate tartans. I have Stewart's THE SETTS OF THE SCOT-TISH TARTANS and in his first chapter and through the whole book, he refers often to the VESTIARIUM. Stewart has excellent patterns for some 260 tartans with colored illustrations and directions for the number of threads used, but his colors are all modern and bright. The ancient colors which are those given in the VESTIARIUM were made from natural sources and are much less vivid, and the combinations very beautiful. When the aniline dyes came in, people seemed to like the brighter color and they have gradually taken over. I saw some of the old tartans in Nova Scotia last summer and was enchanted by them. Hence my yen for the VESTI-ARIUM. I want to try some of the old colors instead of the modern ones."

Well, I did manage to find a copy and I want publicly to thank a customer of mine for not only teaching me something, but for the privilege of keeping for a few days in my own library this magnificent and rare book to look at. It took much fighting with my conscience to let this treasure out of my hands. But one day I hope to find another copy, and this time to find an edition, which Mrs. Lincoln Jr. writes me is in the possession of Mr. J. Nicolls whose copy has in addition to the 75 magnificent color plates, actual silk woven samples attached to them. Perhaps his copy belonged to a weaver. Now, if my readers would like to know more about this book, and other sources of tartans, I can supply . . . no, not the VESTIARIUM SCOTI-CUM but the Stewart book: THE SETTS OF THE SCOTTISH TARTANS, published in 1950, and of which Mary Atwater once wrote to me: "The tartan book to end all tartan books." This book, magnificent too in its way, is, I think the most comprehensive treatment of tartan setts or colour counts, with 8 plates of tartans in colors, 6 diagrams, and 22 color plates of diagrams of the setts, each plate showing 10 to 12 separate multi-color strips, reproducing diagrams from woven specimens made by the author. The price is \$12.75.

Now, Mary Black, is this fair of me, to now bring in your own contribution? Do forgive me for this introduction to it. But you, in your THE SETTS AND WEAVING OF TARTANS and also in your NEW KEY TO WEAVING pay fine tribute to the Stewart book and you say in the former: "There are many books with splendid color plates showing the various tartans, but none, with the exception of Stewart's attempts to assist the handweaver in reproducing the authentic tartan setts," and you continue, "While Stewart does give the basic number of threads for each sett, the manner of presentation still leaves the beginner in doubt as to where to start and where to end. To help the beginner clarify his thoughts, all tartan setts used in this study have been broken down into blocks and are threaded and treadled throughout following this block system."

And this is where I think your "study" a most valuable contribution to the literature of tartans, for it is the next best thing to taking a personal course in the weaving of tartans under your supervision. Perhaps even better, for one does not have to depend on memory alone, but has the written notes to refer to at all times. I like your cogent and pertinent introduction to the subject, with information on the wool used in tartans, the color changes, the difference between "set" and "sett" and even though you say "Tartan weavers are born, not made" you certainly are helping to change this conception, for you show the pitfalls, and you pay particular attention to what can go wrong in weaving tartans and how to avoid these pitfalls, and you know what happens to a tartan sett when the web is poorly beaten. I also liked your helpful hints on finishing the material. Your own samples, which I understand will be reproduced in color seem most helpful. I am referring of course to the text, as you selected those particular tartans which offer specific problems to the weaver. I like the idea of starting with a simple two colour sett, and then progressing into more complicated ones, and for those readers who wish to have the complete threading and weaving directions for some tartans of their own, your book will furnish many recipes. I am anxious to see the completed book which I understand will be out most any day, particularly to look at the sample #8 MENZIES which I don't think I have seen. I understand from the text that it is rather rare and that it uses two shades of red, a clear bright and a crimson. In fact I and many weavers will look forward to the color cuts of the 16 samples you have woven to illustrate the text and the inclusion of the directions. With careful reading and application to your thorough exposition of the problems, and the solutions of fine tartan weaving, I hope to see for myself some tartans as beautiful as those Mrs. Lincoln found in your own Nova Scotia.

I understand that SHUTTLE CRAFT Portfolio subscribers will receive a free copy. Other readers can purchase this book: THE SETTS AND WEAVING OF TARTANS by Mary E. Black for \$2.00. They can buy it from you, I imagine from Lily Mills Co. at Shelby, North Carolina and Lily's agents, and of course from myself at Craft and Hobby Book Service, Coast Route, Monterey, California. 10c for postage should do the job.

Sincerely,

Bois Neren

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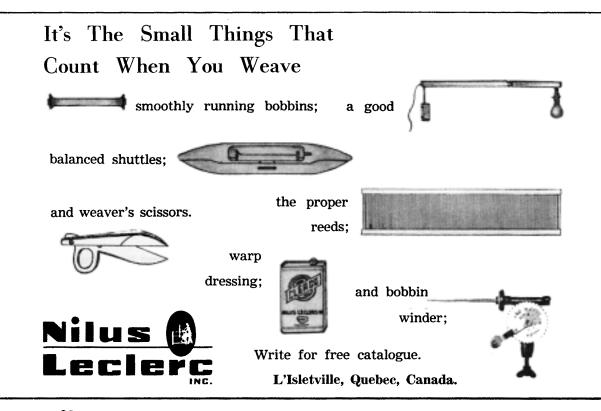
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