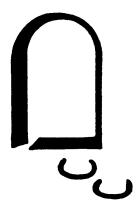
TERRACE TEXTURES

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Thread Horizons Unlimited for Handweavers



TERRACE YARN SHOP 4038 S. W. Garden Home Road PORTLAND 19, OREGON

DESIGN AND COLOR

RHYTHM

This aspect of design is especially important to handweaving, for rhythm or lack of it is obvious and can contribute greatly to the resultant harmony and interest of the whole piece. Rhythm is, technically, measured movement, and is always characterized by these qualities:

I. Movement—expressed in weaving through:

a) Advancing or receding colors.

c) Expanding sizes of areas.

b) Expanding sizes of thread. d) Alternating or expanding sequence of colors, sizes or areas.

II. Recurrence—This attribute can be regular or irregular, equal or unequal in arrangement shown by: Repetition in a) hue, b) value, c) texture, d) size.

Rhythm of Color

The eye tends to move toward related things — those that are alike. Related colors, then, draw the eye from one part of the design to another. Similarly, the strongest colors claim and direct attention and can draw the interest from the less important details to the stronger.

MONOCHROMATIC COLORS

These are values and intensities of the same hue, and are probably the simplest and easiest harmonious color grouping to achieve. Some observations on their use:

1. Mood or keynote is readily indicated.

- 2. The high values and intensities of the same hue tend to soften and become subtle in their effect. For example: Notice that the same graduation of reds appear softer and less brilliant in Sample No. 1 than in Sample No. 2.
- 3. Strong contrasts are effected by using high and low values together. One should predominate, to be distinctive.
- 4. A tint of a color appears lighter when placed beside a dark shade of that hue. A pink, for instance, will appear lighter beside maroon than beside rose.

5. Danger of monotony in the use of monochromatic colors.

Sample No. 1

Warp: 40/2 Linen. Alternative: 20/2 Cotton, set 27 ends per inch.

Weft: 12/1 Linen, 11/2 Linen, Cotton Floss, Perle 5.

Threading: Twill. Standard Tie-Up.

Treddle; Taby and twill.

Uses: Adaptable for drapery, upholstery, dress trim, pillows, table linens.

Notice: Rhythm of color in:

Low to high value reds. Small to large threads. Dull to shiny threads.

Rhythm of design in:

Repetition in groups: i.e., 3-1-2-1-etc.

See artist's sketch on Page 2. See Rhythm Experiment on Page 4, to follow.

Suggested: Try the rhythm in corresponding dark and light (values) of other colors, varying the intensities, texture, and "beat" or placement of stripes.

Let the color trend be on the "up swing", tending to become brighter.

Many a rhythmic effect has been lost
In a sequence of threads not repeated,
So "never give up the ship" too soon—
Or until the "repeat" is completed!

Warp Set 24 Ends Per Inch



Sample No. 1

ANALAGOUS COLORS

As one views the spectrum circle the colors that are neighbors or are adjacent to one another are called analagous. Because they are related by the content of their makeup these colors can combine harmoniously, and are widely used. In addition, one may combine:

a) The hues between 2 primary colors; i.e., red to blue.

b) The hues between 2 secondary colors; i.e., orange to green.

c) Two adjacent primary hues; i.e., blue and yellow, red and blue, red and yellow as shown in Sample No. 2.

Observations on Use

 Adjacent colors appear iridescent, giving off a "rainbow" effect, a lively or vibrant quality of richness. (See Textures No. 36.)

2. Brilliancy and depth are produced.

3. Closely related colors tend to support one another.

4. A large span of colors is possible in certain instances.

5. A feeling of color beyond the ones actually shown is conveyed, much like the dark tone of a color acts as a shadow.

Sample No. 2

Warp: 40/ Linen

Threading: Twill

Weft:

5/2 Red Cotton, Floss, Perle 5, Rayon Boucle.

Uses:

Adaptable for pillows; gay porch upholstery; game room drapery (using Perle 10 instead of Perle 5), or upholstery.

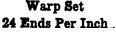
Treadle: Twill, interspersed with tabby.

Colors:

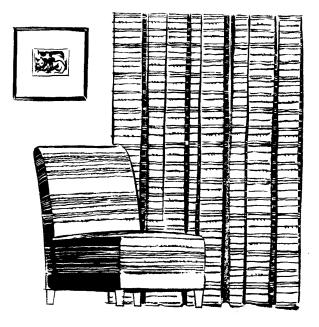
Two adjacent primaries (see group C above) given a rhythmic treatment of advancing reds climaxed in high value yellow.

A color succession brought from a given value of one hue into a higher value in another hue is more sparkling than one brought to an equal or lower value of that hue. Observe Sample No. 2. Were the predominate red (medium) to run into an equal value of yellow (medium) rather than the higher value yellow, the effect would lose in brilliance.

Colors whose wave lengths of light are shorter have a tendency to tone down the effect when in combination with others. Red has the longest wave length; yellow being next; and violet the shortest. Hence, the use of blue instead of yellow would combine to this result.







Design: The more closely set stripe repeats of 3-1-5-1 imply a quicker "tempo" or rhythm. The spacing of the rhythmic group by plain areas has the reverse effect, slowing it down. A certain "oriental richness" is expressed in the former, while the latter makes a more domestic appeal.

DOMINANCE

Another design factor essential to successful weaving, dominance is the subtle characteristic that sets the key to the project. It is the direction given the woven piece through:

Line Form Color Texture

Dominance is the emphasis given a project to declare the chief arrangement of attraction and its lesser important parts. One looks at a drapery length and immediately, through one or more of the above factors, knows whether length or breadth in line is dominant, or neither; sees more of one textural effect than another; more of one color tone than another; and a feeling as to suitability. Projects lacking sufficient emphasis to establish these tend to be dull.

Observations on Dominance

- Lines declare direction by their width and position in relation to others. One should be more prominent than others in a group, and yet none should detract from the other.
- 2. Attention should be directed towards the center of interest by line, form, color, or texture, but not necessarily all at once. The main lines should form the dominant part with any other characteristics closely related. For instance, in Sample No. 4, the horizontal lines are supported and emphasized by the heavy linen outlining them, yet the texture and color of the thick and thin weave is kept in close relationship. A few vertical lines in the warp would destroy this dominance of line. Amateurs are particularly prone to either display too much at once, or show no directional trends at all.
- To repeat in lesser degree a line, a texture, a color, area, form, or motif, is a way of giving dominance, yet retain close relationship, as well as give richness.
- 4. Color emphasis depends on the amount and value used and how placed in the piece. Small areas of bright or intense color are enhanced by adjacent larger ones of grayed colors. Sometimes the reverse is the case, depending on the project, i.e., a gray dress with fuchsia trim vs. a flag with broad brilliant red stripes and narrow brown and tan, or gray and green, ones. Generally the bright colors should be placed nearest the feature of attention. In Sample No. 3, the brilliant red gives the color accent, but follows the line of direction to keep a feeling of unity.

Warp Set 18 Ends Per Inch



Washed Sample

- Rich textures and colors can always be used alone without contrast or embellishment. They show a dominance because of their inherent qualities.
- 6. Materials with interesting surfaces but of mediocre color can effectually use trimming lines or especial care in making up, as in pleat or drape accents. If two textures are used together one should be more prominent than another, and if texture is the feature, color and pattern should be kept in minor relationship.
- Whatever color is used it should contribute to the whole. See Color Impressions in the Introduction. One should stand out when several are used together.

SAMPLE NO. 9

	TAEQ. Per Ya.	(30° Fin.
Warp: 20/2 Linen — 3000 Yd. Lb. (Alternative: 10/2 Cotton)	576 Yd.	Material
Weft: 7/2 Linen — 1050 Yd. Lb.	192 Yd.	Set 32" Wide)
7/1 Linen — 2100 Yd. Lb.	192 Yd.	,
20/2 Linen —	96 Yd.	
12/1 Linen — 3600 Yd. Lb.	96 Yd.	
40/2 Linen - 6000 Yd. Lb.	384 Yd.	
Threading: Twill	Standard Tie-Up	

* Loom Waste Allowance Not Included.

Warp color dominance is presented by using shades of the same hue in various sizes of thread. Even in a monochromatic color scheme a trace of bright or contrasting color adds interest to the prevalent color. The light color in the sample could be replaced by a bit of glitter or shiny thread with the same effect. It scarcely seems like another color—just a little sparkle. Although the feeling is horizontal in line, there is sufficient closeness or relation in line to bring out an all-over effect.

Treadle: 40/2 1-2-3-4- (a whole twill); Tabby — 1x with contrasting color;

Tabby — 1x with 20/2;

3,4,1 — 2x without tabby (using 2 treadles simultaneously if necessary) of 7/2;

Tabby — 2x with 7/1 Linen;

Repeat

Uses: Upholstery, drapery, table linens, dress trim.

"The smallest changes here or there In yarn, or weave, or hue Will steal the scene or set the stage— Their role is up to you!"

Dominance in Complementary Colors

SAMPLE NO. 10

 Warp: 20/2 Linen (Alternative: 10/2 Cotton)
 3000 Yd. Lb.

 Weft: Linen Rug Warp 7/3 (Alternative: 7/2 Linen)
 700 Yd. Lb.

 40/2 Linen
 6000 Yd. Lb.

 20/2 Linen
 3000 Yd. Lb.

 Rayon Boucle
 Approx. 1800 Yd. Lb.

Threading: Twill Standard Tie-Up

This material displays the effect of shooting a fine bright warp with a coarse complementary colored weft of equal brilliance to produce a more sparkling and distinctive material than to use the same hues in warp and weft. The coarse filler dominates, but it has a more vibrant color quality for having its complement to back it up. The use of two strict complements together produces brilliant contrast. But because they are not present in equal quantities they are not wearying or confusing. The small colored weft threads prevent monotony and contribute to the unity by their related color and size. The dark thread gives a slight accent or break to the "field."

This upholstery is flattering to the small piece of furniture, or when used in large amounts.

Amount Required Per Yard (30 Inch Finished Material)

Warp: *576 Yds. 20/2 Linen. Set 32 inches wide in reed

Weft: 144 Yds. each of 40/2, 20/2, and 7/3 Linen

288 Yds. Rayon Boucle

Treadle: Tabby 1x each with small contrasting threads

1,2-1x with 7/3 Linen (twill)

2,3 - 1x with Rayon Boucle

3,4,1 — 2 x with Rayon Boucle doubled (satin stitch)

Repeat

* Loom Waste Allowance not included.

Suggested: Using the color wheel, choose other complementary color combinations and mount thread samples in the notebook.



Washed Sample

Rugs that wear for years and are a constant joy to behold must contain certain basic ingredients in both materials and weave.

OBSERVATIONS ON RUG WEAVING

The Materials

The Warp—Use a 3-ply linen if possible. If cotton is used, it should be at least 6 ply and tightly twisted. Ordinary carpet warp is not very durable and a cord type cotton yarn is preferable.

A warp sett of 6 per inch is ideal, but 7, 8, or even 9 per inch is possible. The further apart the warp the more tightly the weft may be beaten together, resulting in a thicker rug.

A doubled warp thread at regular intervals one or two inches part adds interest and creates slight vertical ridges in the rug. One of the doubled threads may be of contrasting color for variety.

The Weft—Mix some hard twisted materials throughout to insure wear. These can be blended with softer ones, but the majority should be of the firm type.

Types of Suitable Material are: Bedford Glazed Cord Cotton Cable Cord Two or Three-Ply: Jutes

Hemp Rovings Fishline

Linen Seine Twines Linen Cable Cords

Wool Rags, heavy weight, shrunken, cut ¼ inch to ¾ inch wide, depending on the type of material.

Where to Buy Materials:

Twine or Cordage Companies
Paper Supply Houses
Marine Supply Companies
Rag Merchants or Rummage Sales

Leather Supply Companies

Colors—Generally, use greyed or softened colors to avoid tiring of them. White stands out prominently but natural fibers in contrast tend to soften the effect. The hard twisted cords are difficult to dye but the jutes take dye quite well. Close repeats of color, textures, or weaves are pleasure and restful.

The Weaving

- (a) Beat all rugs very hard once before and three times after the change of shed. In order to insure a tightly woven rug do the following: Use a large coarse-tooth comb, held in the hand, and press like the beater against the edge of the web. Do this across the entire width after each 1 to 1½ inches of weft is beaten in with the loom beater. One can beat materials together in this way that will not beat down tightly any other way.
- (b) Have two-thirds of all shots in some form of twill weave. This means that most of the weft is a treadling other than tabby. Tabby is blended among other shots as a binder, but one finds it quite impossible to beat the harder weft materials tight in straight tabby weave. Softer materials may be an exception, and all may be beaten more tightly by using the coarse comb as described.

(c) Use of a steel "Jiffy" loom needle instead of the regular shuttle facilitates the making of loops, ghiordes knots, and some other effects.

Finishing

This is most important. If hemmed, beat in at least $2\frac{1}{2}$ inches at each end of soft material for turnunder. If fringed, beat in one or two inches of softer material at base of fringe. A cardboard may be woven in between two rugs in the fringe areas to prevent weft slipping. Overcast rug ends at base of fringe before removing from loom. Fringe allowance of two to three inches at each end is usually sufficient, as longer fringes tend to tangle. Tie hard knots in small groups of 2, 3, or 4 warp threads as close to base of fringe as possible.

"Any rug must take a 'beating'
In wear and weave—it's true,
But do use the right materials
Or the 'beating' will be taken by you!"

Warp Set 6 Ends Per Inch



The Warp: Barbour's Salmon Gill Net Twine Cabled 40/6-900 Yards per Lb.

The Weft: Cabled Cotton Seine Twine, Soft, No. 16

3-Ply Jute—190 Yd. Lb. 2-Ply Jute-300 Yd. Lb.

Bedford Cord

Treadlings-From Top of Sample Down: Body of Rug—1,3—1x Green Cord 2,4—1x Green Jute

1,2—1x Green Jute 2,3,4—1x Green Jute Repeat

Soft Cord Group:

3,4,1-1x1,2 —1x

2,3,4-1x

Green Jute Group:

2,4 —1x 1,2 —1x 3,4,1—1x 1,3 —1x

Bedford Cord Group: 3,4-1x

2.4-1x3,4-1x 1,2-1x Brown Jute

3,4—1x Green Cord 1,2—1x Green Cord

Brown Jute: 1,2-1x

3,4-1x

Repeat

Ends of Rug: Regular Twill

SAMPLE B

Warp: Same as Sample A.

Weft: Same.

Treadling: All treadling is on 1,2 and 3,4, alternated.

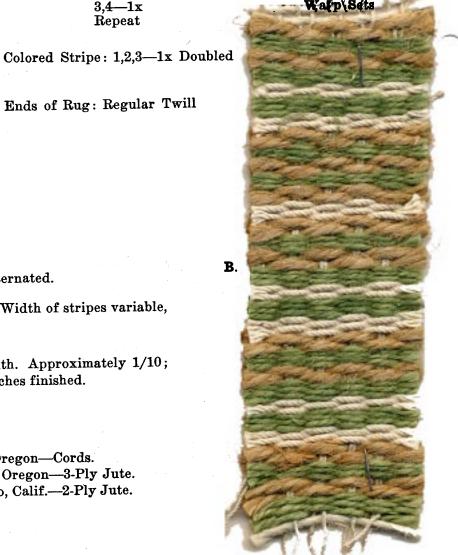
Colors: To be repeated throughout rug body. Width of stripes variable,

as desired.

The take-up in this type of rug is in the width. Approximately 1/10; i.e., warp set 32 inches wide is $29\frac{1}{2}$ inches finished.

Materials From:

Oregon Marine Supply Co., Portland, Oregon-Cords. West Coast Paper Company, Portland, Oregon-3-Ply Jute. Davis Cordage Company, San Francisco, Calif.—2-Ply Jute.



BLENDING MATERIALS

Warp Set 12 Double Ends Per Inch



Possibilities of blending yarns and colors are as varied as they are fascinating. To combine them calls for no set formula, but one type of approach is shown in Sample A, while Sample B exhibits this in a contemporary version of an otherwise conservative pattern.

SAMPLE A

Warp: Texture—One end of wool is placed with one end of cotton or rayon in each dent (12 dent reed). The two yarns, if dyed and in the same dye bath, each take on a slight difference in color tone, enhancing the texture. Some of these were hand dyed, others used as purchased.

Colors—Analagous colors are easily blended. White is always a sharp contrast but here the weft mellows its effect. In assembling the colors it was found helpful to wrap small versions of the proposed stripes around a card to get the feeling of their compatability and size relationship. The darkest color was set beside the lightest to sharpen the contrast.

Materials—Brown Stripe	-Rayon Ric-rac	2550 yd. lb.; 18-2 Worsted Wool	5000 yd. lb.
White Stripe	-Cotton String	1600 yd. lb.; Sock Yarn	140 yd. oz.
Pink Brown	Stripe—Cotton-Rayon	2600 yd. lb.; 18-2 Worsted Wool	-
	Terry (dyed)		
Tan	-Perle 3	1250 yd. lb.; Homespun Wool	2750 yd. lb.
Rust	—Terry	2600 yd. lb.; Homespun (dyed)	

Weft: Gold Rayon Flake was used throughout. Beat firmly.

Treadling: 1,2 - 1x; 3,4 - 1 x; repeat. Draw In: 3½ inches on a 30-inch warp.

One way to give a slight variation to plain tabby treadling is shown. Although the weight of the weft used does not show this as vividly as a larger yarn, doubling the weft when sufficient area is woven to make a square on each stripe yields a bit of irregularity to the stripes. For instance, beginning with the dark brown warp stripe, having 6 double ends, one weaves 6 weft shots, doubling the following one.

This procedure is also a very simple way to create a plaid, using the same colors in the weft, weaving the width to form a square on the respective warp color. The arrangement of weft colors need not be in the same order as the warp.

Note: Wool yarns such as homespun that may not be considered the best of warp can be employed in blending this way, as the cotton separates and prevents the wool from sticking together. The 1,2; 3,4 treadling is another help to prevent this.

Uses: Upholstery, as shown. Set 10 double ends per inch for drapery.

Its looks should say "Handwoven",
A material one can't buy.
Its sparkle in color and texture
Should make us exclaim "Oh My!"

SAMPLE B

A pattern that was used previously on Page 14 of the Color and Design series of TERRACE TEXTURES (Plate No. 43) is repeated to show an example of adapting a pattern to give a contemporary type of fabric.

Threading as Adapted

**	4,	, 4				4, 4			4, 4		
	₹ 1. 3	3		3	3	3		3		3	3
	2	2	2	2		2		2		2	2
1	1, 1	1, 1					1, 1				

P = Coral Pink
B = Dark Brown
W = White
Repeat

PPWWBBWWPPWW WWBB WW PP WW BBWW WW

Arrangement: The colors here are placed at points of pattern change. The colors are used in inverse arrangement in the second group. By comparing the two versions of this pattern it can be observed that the size of the yarns used at these points help determine their prominence.

Warp: Coral Pink — Dull Rayon Ric-rae
Dark Brown — Dyed Sock Yarn

Dull Rayon Ric-rac
Dyed Sock Yarn
Cotton and Rayon Terry
2000 yd. lb.
140 yd. oz.
2600 yd. lb.

Note: The two ends of each color are treated as a single end in the reed (9 dent) reed sleyed double.

White
Weft: Sample B (1)

Dark Brown-Sock Yarn

1)

2)

White—Linen Floss 12/1 3600 yd. lb. Alternative: Viscose & Acetate Yarn—2400 yd. lb.

Treadling Development

both dark and light colors.

The principle of tabby color change as explained on Page 25 of the Color and Design series (Plate No. 49) is employed as a basis here. The change is marked by an emphatic line made by treadling two pattern shots that bring the dark brown to the surface. The weaver, in exploring a pattern for points

Warp Set 18 Ends Per Inch

Of Allon

Repetition and Emphasis is a "device" shown that can often be used to advantage in developing pattern treadlings. Reversing the color arrangement or treadlings is another. Small areas of repeats give the illusion of firmness and an all-over look to the material. Avoid too many kinds of changes.

1) The project will largely determine the trim lines, if any, which can then be developed. For these try combinations of one, two, or three

of departure should experiment by throwing up the different sheds

to find which hides a yarn and which brings it up, trying them with

(1) The project will largely determine the trim lines, if any, which can then be developed. For these try combinations of one, two, or three adjacent shots (using the same yarn) on different treadles. When a pleasing combination is reached, experiment by repeating it consecutively. Then try the same, spacing with tabby of another size or color in varying amounts. Do not be afraid to play at the loom to feel the effects created. Try different sizes of yarns or double them, different colors, and different treadling combinations. Experiment is absolutely necessary. Seek for unity or a sense of oneness in the effect.

(2) Treadling: Sample B (1)

(2,3-1x (Double weft of Brown) a)1,2-1x (Double Sock Yarn Brown)

b 1,3 - White Linen 2,4 - Brown Sock Yarn (Single) Alternate, for total of 7 shots, ending in white.

c Repeat (a).
-(2.4 - White Linen

d 1,3 - Brown Sock Yarn (Single)
Repeat

Sample B (2) Tabby, using Cotton & Rayon Terry (dyed)



Finished Sample

Page 34

ADAPTING PATTERN

To see in the conventional weaving pattern possibilities to make it different by substituting or changing the kind of material, yarn size, texture, threading, or treadling is to broaden the whole perspective in weaving. Those who "catch on" to this are the ones whose reservoir of ideas is never exhausted. How is this done? Again there is no royal road but the hard one of experiment. Practice in adapting makes it easier and more possible with each succeeding attempt. The following is suggested as ways to proceed;

- 1. Make a sample of the pattern in one color sufficiently large to:
- 2. Study the arrangement for inherent design as to:

Lines Curves Angles Prominent points or Masses Parallel Effects

Depth of Weave Spacing or Areas Repeats of Space or Line

3. Consider the following for ways of doing something different with the problem of presenting a pattern:

A. SUBSTITUTING MATERIALS

Size of Thread This can be in the whole area, at points of interest, or through small threads used to minimize certain parts of the pattern and support others into prominence. Do not forget the possibilities in the warp as well as weft. Thread size ratio is one of the most important aspects of pattern.

Texture Change Change is usually welcome, but too much of anything spoils it. Limit texture changes as carefully as those of color to avoid losing the charm of the contrast. The current sample shows this by groups, but the change of texture can be very close, as when threads are alternated.

B. VARYING THE HANDLING OF MATERIALS

Doubling A Thread Sometimes emphasis is achieved in no other way than by two threads of the same yarn adjacent. Doubling in either heddle or shed are means of doing.

Twisting or Composite Threads The blending of several in one thread adds to bulk, and offers interesting possibilities in color and texture. Close colors or textures make it more conservative.

Loops, Lay-Ins, Clipped Groups, Knots, Novel Treatments

Repeats By color, texture, or weave.

Space Warping of thread groups.

Open Sleying A pattern can almost lose its identity by loose sleying of the warp. Look for good and bad points in doing this.

C. CHANGE OF THREADING

Doubling or Tripling Threads This is often done in the warp at a focal point in a pattern such as a point or angle or where the pattern changes direction. Dull and shiny textures, dark and light color contrasts, or size contrasts can be effectively injected in such places.

Color Examine the pattern for the following possibilities:

- (a) Alternate colors threaded in one part, then reverse the color arrangement in another. Certain colors will come up and others will recede.
- (b) Repeat colors at intervals on special single warp threads raised by the pattern.

(c) Repeat color groups at intervals on special groups of warp threads.

(d) Change color or hue value at change of direction: i.e., the point of a twill chevron.

(e) Accents, employing or introducing black or white. These can be used to give sparkle to a material or help blend its colors in all-over use, or give it a frosty tone by acting as neutralizing agents.

Using Segments of A Pattern One need not use the whole of a pattern just because it is in a book! Try threading the whole in a repetition of that part which appeals, or features a special effect. For instance, referring again to Plate Page 14 of the Color and Design Series, had the large colored boucle thread been repeated in the warp without the stripe spaces of tabby, the entire effect would have been altered, and especially effective in close color relationship. The present sample contains two threadings, either of which could be used over the entire material.

D. CHANGE OF TREADLING

Tabby Spacing Any prominent point in the pattern is set off by various spacing with tabby shots. Observe this in the TERRACE TEXTURE series.

Embossed Effects Use tiny tabby threads between areas of repeated shots. Shiny rayons or metallics are especially good for this.

Repeats Probably nothing distinguishes the contemporary type of weaving more than repeats to obtain a restful, all-over effect in fabrics. Notice the shots that bring threads to the surface or those that are eye-commanding. Try repeating these in areas or alternately with others. Patterns or parts of them can be extended by repeating tabby shots between pattern shots.

"Don't be 'stuck with a pattern'—
There's more than one thing to do;
Play up some feature about it
And make it do tricks for you!"

THE SAMPLE

Warp: 7/1 Linen — 2100 yd. lb.; 20/2 Linen — 3000 yd. lb. Threading: "Old French Pattern"—A crackle weave.

4	4			4
$egin{bmatrix} 3 \\ 2 \\ 1 \end{bmatrix}$	$egin{array}{c} 3 \ 2 \ 1 \end{array}$	Repeat	$\begin{bmatrix} 2 \\ 1 \ 1 \end{bmatrix}$	Repeat
		inen) Section		x Section 2 Linen)

Weft: Sample A—Rayon Chain (doubled)—1500 yd. lb. 20/2 Linen.

Metallic-Supported Lurex.

Sample B-20/2 Linen and Composite Thread (made by twisting several together).

Sample C—1½ Linen — 450 yd. lb. Rayon Chain. 20/2 Linen.

Treadling:

Sample A-1,4-1x Rayon Chain (doubled).

1,3 - 1x 20/2 Linen.

2.4 - 1x 20/2 Linen.

Repeat 3 x, then space with tabby 3 shots, alternating 7/1 and metallic. Repeat as desired.

Sample B—The composite thread is placed in shed treadled 1,4. Handle in a large "jiffy needle", using short lengths. The 2nd shot is beaten down as the thread is laid between each dark stripe to avoid slackness in the twists. Leave loops at edges of material between groups of this built-up thread. Join in the shed rather than at edges.

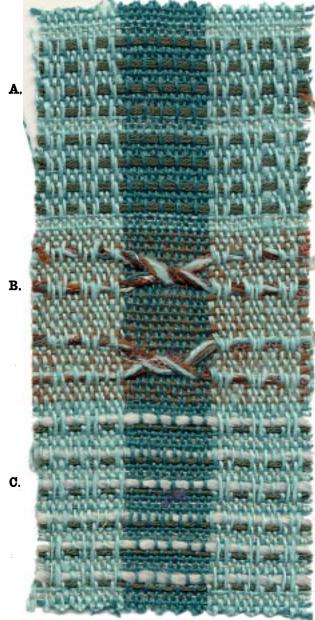
Sample C—1,2 — 1x $1\frac{1}{2}$ Linen. 4,1 — 1x Rayon Chain. 2,4 — 1x 20/2 Linen.

1,3 — 1x Metallic.

2.4 - 1x 20/2 Linen.

Repeat.

Warp Set 22 Ends Per Inch



wasned Sample

Pattern Treatment: The sample exemplifies: A-Doubling A Thread, and Tabby Spacing.

B—Novelty by Twisting Yarns.

C—Close Repeats of Color, Weave and Texture.
Alternation of Color and Texture Groups.

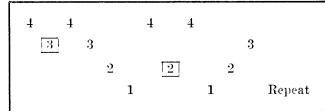
ADAPTING PATTERN

These samples illustrate the principles presented in the previous lesson. The threads and colors were self suggestive of the "chinese brocade" theme, and the treadlings and threading in adapting the pattern were developed to follow this idea.

PROCESS OF DEVELOPMENT

Thread Selection: Because tiny rich colored threads lend themselves to blending, several of close color and shiny texture were selected for the composite threads prominent in both warp and weft. The composite thread acts as a large yarn, keeping a more open mesh in the web, with the resulting material less stiff.

Pattern Selection: Patterns of the twill type, such as this German Birdseye, are especially recommended for this type of adaptation because of the close repeats and the more even use of threads on all four harnesses.



Pattern Threading

Explanation of Threading	Approx.
4 =2 ends of Star 3-Cord Cotton	1,200 yd. spl.
plus 2 ends fine Rayon Nub	20,000 yd. lb.
=1 end of shiny Rayon Nub	1,200 yd. lb.
1 & 3=single ends of Cotton Boucle	1,800 yd. lb.
2 = single end wool 2-20	5,400 yd. lb.
Use 9-dept reed Leave 1 dept vacant a	t center of inch

Place each group of rayon in single dents.

Warp Set 12 Ends Per Inch



Simples Steampressed

Treadling: Sample A—It is noted that treadle 1 (harnesses 1,2) allows all of the shing warp threads except 2 to remain on top of the shot. Repeating this feature by using a similar composite thread in the weft, an emphatic warp line develops in the design. These "featured" composite weft threads are held together by alternate tabby shots using one of the same yarns as in the warp (cotton boucle). The result in Sample A is a material of basket-like weave yet rich in texture, with wonderful soft draping quality.

Sample B—The reverse procedure is used in this sample. One of the tabby shots (harnesses 1,3) is the "feature". This tabby shot is held uniform in green weft and alternated with the composite thread shot on the other twill treadles:

A-Tabby — 1 x

Neft is double thread of a wool and metallic plus a plain wool of similar color and size. This may vary but should effect a solid color.

1,2—1 x

A-Tabby — 1 x

Double Thread (1 wool, 2 threads rayon nub, and 2 threads of 3-ply Cotton Cord.

Double Thread (Same as above).

Composite Thread as above.

Double Thread (Same as above).

Composite Thread as above.

A-Tabby — 1 x

Double Thread (Same as above).

Composite Thread as above.

Double Thread as above.

Composite Thread as above.

The Colors: Golds and "dirty yellows" are perennial favorites with decorators and have a wonderful blending

quality. In this type of experiment the blends of a single color are more effective than contrast, which, if any, must be subdued. The sky seems to be the limit as to contrast in fibers.

This Lesson Exemplifies:

(1) Substituting Materials by composite (built-up) threads and texture change.

(2) Varying The Handling by doubling and grouping.

(3) Change Of Threading by grouping of textures in the warp and weft.

(4) Change of Treadling by "featuring a shot" and repeating it.

"Study your assembled materials
In order to know what to do,
Don't cook up too fancy a project
Or you'll end up in a stew "



ADAPTING PATTERN

Warp Set 12 Ends Per Inch



The adaptation of the overshot pattern to contemporary design is often limited to novel lines or effects such as are shown in Sample A. Overshot does not lend itself well to the simple all-over type of fabrics popular today. Sample A illustrates the repetition of a single shot alternated with tabby. This is possible with any pattern and is usually attractive.

SAMPLE A

The Warp: 20/2 Linen-3000 yd. lb.

The Weft: 14/2 Natural Linen twisted with supported Lurex metallic.

1½ Linen trim.

The Pattern:	4		1		4	Į			4	4	$\frac{4}{3}$	4	
	1	1	$\frac{2}{1}$	$\frac{1}{1}$	1	1	2 1	2 1	1	-	1		Repeat.

A.

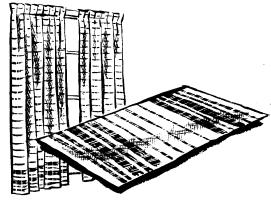
Treadle:

1,2 — 1x with $1\frac{1}{2}$ Linen. 2,4 — 1x with Rayon Boucle.

1,3 - 1x with 14/2 twisted with metallic on same bobbin. Repeat. On narrow trim use "jiffy" or "weave-it" loom needle. Depress harnesses 1,2 and lay in on warp groups of $_{1}^{2}_{1}^{2}_{1}$ only, passing under all other threads with the $1\frac{1}{2}$ linen. Alternate 2 shots of tabby between in Rayon Boucle. This causes the trim to stand out on the background. Groups can be spaced to suit.



By closing the unit to a small repeat one is immediately able to reduce the size of the weft threads. These are often doubled up on shots bringing up groups, avoiding the skimpy thready look, and give a character to the design.

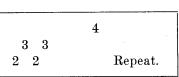


B.

The Warp: Same as above.

The Pattern: A section from "Summer and Winter".

The Weft and Treadling:



1,3—1x with triple threads of 14/2 Linen.

1,2—1x Cotton Boucle—1800 yd. lb.

Sample B\(\frac{1}{3}\)—1x Triple 14/2 Linen. |2,4\)—1x Rayon Boucle or 7/1 Linen.

Repeat.

 $1,3-1 \times 14/2$ Linen doubled.

Sample $C_{3,4}^{2,4}$ Linen. $C_{3,4}^{1/2}$ Linen. Rayon Boucle.

1,2—1x 20/2 Linen.

Repeat.



C.

Combine the old and the new-Try putting a lot with a few-A repeat here or there Gives a unified air-Do your best whatever you do!

SPACE WARPING

Adaptable creative possibilities on the loom are found in spacing of warp in the reed. This spacing can be at regular or irregular intervals, bordered or untrimmed, as tight or loose as desired, each with different but clearly defined effects. Space warping creates the illusion of lace, popularly employed in table linens, draperies, and stoles.

SAMPLE A

Warp: 20/2 Linen, set 15 ends per inch in plain

Cotton Boucle—1200 yd. lb.

40/2 Linen, or 20/1, or 3-cord spool

cotton.

Metallic twisted on 20/2 linen or other.

Weft: 20/2 Linen Threading: Twill

Sley Center Area: B,M,X,O,O,B,M,X,O,O,B,M,X,O,O,Repeat, in a 15 dent reed.

B—Boucle, M—Metal Twisted Thread, X—2 light value and 3 dark value colors in 40/2 linen or other small threads.

Treadle: 2,4-1x Lay in a shed and pull together in tight bundle with

1,2,3-1x (Use 2 adjacent treadles together if necessary.

1,3-1x Note: Beat in $2\frac{1}{2}$ inches of plain tabby.

Repeat

For 8 Mats

Material: 1 lb. 20/2 Linen.

175 yds. lt. 40/2 Linen or substitute. 800 yds. drk.40/2 Linen or substitute.

125 yds. Boucle.

Mat Dimensions: Warp 14½ inches wide in reed.

3¾ plain on each side.1 inch stripe area.

5 inch center area.

Any area may be set off by changing color value or texture of thread in warp or weft 3 to 5 ends or shots or by a single end of larger size.

Weave: Total 23 inches for each mat.

Tabby: 3 inches at each end.

Stripe: 1 inch outlined, placed 4 inches from tabby

at ends

Center: Treadle all pattern between tabby ends.

Hems: 1½ inches, ¼ inch turn under.

SAMPLE B

Warp: Grocery Store String; or Carpet Warp; or Perle 3 Cotton.

Sley: Use 12 dent reed—4,3,0,0,0,3,0,0,2,0,0,0 Repeat. Weft: 12/1 Linen—3600 yd. lb. 1½ Linen—450 yd. lb.

For 8 Mats

(13" x 19" Finished)

Amount: 975 yds. of warp.

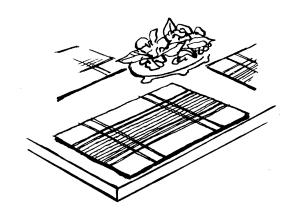
376 yds. of $1\frac{1}{2}$ Linen. 400 yds. of 12/1 Linen.

Weave: Allow 1 inch fringes. Tabby, alternating 1½ and 12/1 linen for 19

inches. Beat in $\frac{1}{2}$ inch of $\frac{12}{1}$ at base of fringe at each end.

Take Up: 1 inch per mat.

"For some further suggestions
In our space warping spree
Just turn the page over—
And there you find three!"



Warp Set—15 Ends per Inch

Sample A

Warp Set 12 Ends per Inch



Washed Samples

Example C

EXAMPLE C

The simplest form of space warping is by skipped dents in the reed to form definite stripes, blocks, plaids, or squares.

It is advisable to place at least 3 small or tiny threads at edge of open space to hold the blocks or warp stripes firmly in place. Always place these small threads in a single dent.

Weft stripes can be made by at least 3 shots of tiny contrasting colored threads in darker value.

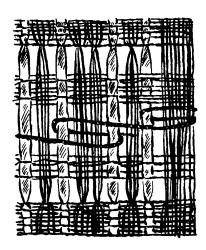
Inch wide areas, with 4 skipped dents between, are pleasing, and makes the block slightly more than one inch long. Boucle alternated with a plain fine weft thread is usually attractive. Warp of 20/2 linen, set 15 per inch forms a good base on which to lay this.

EXAMPLE D

Materials:

Wool wound with metallic Dress knitting boucle 2-32 Wool or Fabric 1/4 inch ribbon Distributed as shown.

About 15 per inch, in 9 dent reed.



In this case the warp is all placed at regular intervals across the reed. The "spaces" are created artificially by hemstitching groups of threads to make areas for "Shuttle" work such as "Spanish lace, Brooks Bouquet", or other manipulation to produce especially lace effects.

Use: Stole in one color.

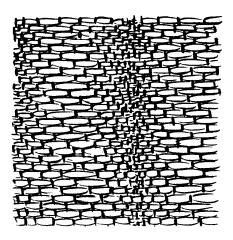
Warps which are heavily grouped at intervals, graduated to sparse sett and back to dense spacing repeated across the reed make for very interesting textural effects. Treadled twill, a definite swirl, diagonal in direction, results. A warp stripe is that from treadling tabby.

The size of the yarns used and the ratio of weft size to warp size are most important factors here. A warp is most successful in this if it has a "tooth"—a roughness to hold the weft in place, and the weft very soft and "fat".

A linen boucle graduated from 6 per inch to 18 per inch calls for rug filler for weft size.

Nice effect for draperies.

Example E



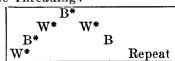
Warp Set 12 Ends Per Inch

DESIGN IN CONTRASTS

Black and white string studies contain a most rewarding way to develop design in handweaving. The sharp contrast in color calls the eye to little patterns developed by the interweave of the threads that otherwise often go unnoticed. Every weaver should make this experiment to appreciate the advantages toward creative weaving.

in these samples the black and white string of Sample No. 1 is shown devel-(A) oped in linen in No. 2, and No. 3 with red and black wool. Extreme contrast in yarn size also calls the weaver's attention to another important factor to be remembered.

The Threading:



W= White (Harnesses 1 and 3) B = Black (Harnesses 2 and 4)

* = See Sample No. 2

This twill variation contains infinite possibilities because of the doubling effect on harnesses 2 and 3, and affords control of color as easily as regular twill. Reversal of the color order will yield different designs with the same treadlings. Sample No. 1

Yarn: String and black carpet warp.

Treadlings: (A) 3.4 - 1 x2,3 - 1 x $3,4 - 1 \times 1$ 4,1 - 1 x Black Repeat

(B) $4.1 - 1 \times B$ $3.4 - 1 \times W$ $2,3 - 1 \times B$ $1,2 - 1 \times W$ Repeat

> Warp Set 19 Ends Per Inch

Sample No. 2

(C)

Threading: Same threading and color arrangement using 12/2 linen warp (1800) yd. lb.). Notice, however, the variation in spacing the warp to emphasize design. Sley a 12-dent reed as follows: all * in one dent; 0-0-0; remaining black thread in dent alone; 0-0-0; repeat. Weft:

12/2 and 11/2 bleached linen.

Treadlings: 1,2,3-1 x with $1\frac{1}{2}$ Linen 2,4 - 1 x with 12/2 Linen $1.3 - 1 \times \text{with } 12/2 \text{ Linen}$ 2,3,4-1 x with $1\frac{1}{2}$ Linen 1,3 - 1 x with 12/2 Linen $2,4 - 1 \times \text{with } 12/2 \text{ Linen}$ Repeat

Suggested: Place mats, with solid black 2½-inch tabby borders, finished at each end. Alternate each quarter of warp area with reversed color order: B, W, B, W, instead of W, B, W, B.

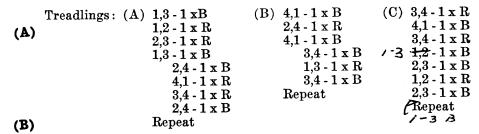


Warp Set 30 Ends Per Inch

No. 1

Sample No. 3

Thread: Same, shown in red and black 2-32 Weavecraft wool.



Note: Use opposite harnesses on rising shed looms in treadlings.

"Try threads and treadles in black and then white, Change these a bit, and there comes to light A whole world of weaving awaiting you-A sphere of design that's sure to be new!"



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UNIT IV

COLOR AND DESIGN IN HANDWEAVING

New horizons contine to unfold to those who analyze and recognize fundamental principles of color and design and can apply these principles. To constructively help in this, TERRACE TEXTURES will point out and show samples to illustrate those of major importance to the handweaver. The following are anticipated in:

Color Harmony Monochromatic Colors Analagous Colors Complementary Colors Neutrals

Each to Show

Design Principles
Rhythm
Proportion
Dominance
Value
Radiation
Balance

Color "must be seen and not heard", used and not merely talked about, in order to become familiar with its properties. If the weaver will actually perform the suggestions made, the principles of color to be considered in the pages and samples to follow will have vitality and meaning.

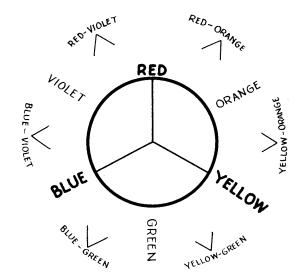
COLOR PRINCIPLES

All colors form part of the spectrum, the consistent arrangement of light rays found exemplified by the rainbow. The spectrum colors may be divided into groups or families and given a circle to indicate proximity and relationship:

CREATE A COLOR WHEEL

- Cut color chips about 1x3 inches in size if possible from
 pictures and advertisements in current magazines. To make
 these practicable to handle they can be pasted to thick paper
 and recut to size.
 - a) Select a large assortment of colors (hues), light or dark (values), dull and bright (intensity).
 - b) Stack these in color groups or families as shown above.
- 2. Choose one chip each, uniform in value and intensity, of the following:
 - (A) RED (A) YELLOW (A) BLUE
 (b) Orange (b) Green (b) Violet
 (c) Red-Orange (c) Yellow-Orange (c) Blue-Green
 Red-Violet Yellow-Green Blue-Violet
- 3. On the top of a card table arrange the single chips (A) equal distance apart in circle. Place (b) chips between those of (A); then place (c) chips between their respective

"relatives".



- 4. Chips representing the in-between combinations of color can be inserted by expanding the size of the wheel. The object is to know and recognize their position and relation in it. These are grouped descriptive names that will help distinguish some of them:
 - RED (A primary): Not bluish or yellow in cast such as: red cherry, cardinal, ruby
 - Red-Orange: pimanto, "Chinese" red, tomato, terra cotta, crabapple, flesh
 - ORANGE (A secondary): Equal in red and yellow such as: tan, sand, fawn, burnt orange, oak, leather, golden brown, brown mahogany, cinnamon, burnt sienna
 - Yellow-Orange: All yellows containing red such as: tan, cream, corn, amber, apricot beige, fallow, burnished gold, natural wood, topaz, chestnut
 - YELLOW (A primary): All yellows not greenish or orange such as: primrose, yellow cream, lemon, butter, daffodil, dandelion
 - Yellow-Green: Nile, apple, olive khaki, moss, mustard, bronze, chartreuse, pistache
 - GREEN (A secondary): Equal in blue and yellow such as: leaf, grass, kelly, hunter's, mignonette, emerald
 - Blue-Green: Sage, myrtle, jade, peacock, turquoise, tarragon, conifer, spruce, aqua
 - BLUE (A primary): Not greenish or reddish such as: robin's egg, delft, slate, bluebird, navy, French, sky blue, gentian
 - Blue-Violet: blue-purple, midnight blue, royal, cornflower, iris, periwinkle, woodviolet
 - VIOLET (A secondary): Not reddish or bluish such as: wisteria, lilac, lavender, orchid, mauve, taupe, plum, heliotrope, purple
 - Red-Violet: Claret, raspberry, maroon, crimson, cerise, fuchsia, American beauty, magenta

USE THE COLOR WHEEL

Identify:

a) Warm Colors (advancing and stimulating): Those with red and yellow content.

b) Cool Colors (receding and restful): Those with blue and green content.

c) Complementary Colors: Those representing the part of the spectrum lacking in the other colors. Example: yellow (containing neither blue nor red) is the complement of violet. They are found on opposite sides of the wheel. Find others.

d) Triads: Three colors equal distance apart around the wheel. Example: red, blue, yellow; green, purple, orange: and combinations of those between.

e) Analagous Colors: Colors closely related by proximity to each other around the wheel. These can be adjacent hues of the spectrum, or the gradations of those between two primaries or between two secondaries. Example: yellow to blue; green to violet.

f) Monochromatic Colors: One color gradations; a single hue with its variations of value and intensity.

Example: wood-violet, purple, lavender. (See Textures No. 34.)

g) Neutrals: Value steps from white to black without the admixture of color. Examples: grays and whites. A "neutral value" of a color is a lessening of intensity, a withdrawal of some of the pure color. Example: pale orange.

OBSERVE COLOR IMPRESSION

Dark Cool Colors—Weight, strength, reserve, mass, quiet. Light Cool Colors—Repose, expanse, freshness, femininity, fragility. Dark Warm Colors-Stability, dignity, vitality, power, richness, quality. Bright Warm Colors-Excitement, activity, aggressiveness, exhiliration, poise. Light Warm Colors-Cheer, hospitality, delicacy, fragility, fantasy. Greved Colors—Dignity, reserve, quality, conservativeness.

OBSERVE COLOR EFFECTS

TONE

A piece of weaving should have a color emphasis. This means that it contains a definite color tone, a feeling that a certain color atmosphere is prominent. One can:

1) Repeat a color in a number of different areas in the design.

2) Distribute closely related colors, which tend to draw the eye from one to another.

3) Make an area of design lighter, brighter, darker, or in some way contrast to the background against which it is set.

4) Make small areas of a certain color throughout a piece more emphatic by the presence of a larger area of the same color. These together tend to unify the project and brighten it.

CONTRAST

The key to pleasing contrast is an arrangement of yarns which mutually complete each other, each part in good proportion and color, together constituting the whole design. This can be done with advancing and receding colors, and the proportioning of areas allotted to each, both towards a feeling of balance.

a) The areas of bright colors must be in inverse proportion of dull ones; those of warm to cool ones; etc.

b) The areas of those suggesting lightness must be inverse in proportion to the areas of weight (those which tend to focus the eye as centers of interest).

Contrasts in weaving are achieved by:

1) Value change. (Lights and darks.)

2) Change of hue.

3) Change of intensity. (Bright or dull.)

4) Texture change. (Varying types of yarn and weave.)

THE RESULT

The weaver who projects his mind in dealing with color and design beyond a vague "feeling" about combinations in his projects will eliminate much unfruitful experimenting. He will soon find that by simulating the design on paper and filling in the proposed colors and effects (use of water colors recommended) will be economical of both time and expense.

The samples and information to be presented are intended as a suggestive basis for applying the principles given rather than projects to be copied. The thread relationship can be carried into many corresponding variations of both design and color.

LINEN-WOOL

UPHOLSTERY

Warp: 20/2 Linen Weft: 3-Ply Sport Yarn

Standard Tie-Up

A.

B.

C.

3000 Yd. Lb. Approx. 1075 Yd. Lb.

Warp Set 18 Ends Per Inch

Standard Tie-Up Diagram



Treadle 1: Harnesses 1 and 2 Treadle 2: Harnesses 2 and 3 Treadle A: Harnesses 1 and 3 Treadle B: Harnesses 2 and 4 Treadle 3: Harnesses 3 and 4 Treadle 4: Harnesses 1 and 4

Pattern for Sample (Basket Weave)

2 2 Repeat

Pattern Treadlings

Sinking Shed:

Rising Shed:

SAMPLE A.

3-2 x without tabby 2-1 x 4-1 x 2-1 x 4-1 x 2-1 x 2-1 x 2-1 x 3-2 x without tabby 2-1 x 4-1 x 2-1 x 4-1 x 2-1 x Repeat

SAMPLE B.

3-18 x with tabby 1-18 x with tabby

1-18 x with tabby 3-18 x with tabby

Tabby Shown: 20/2 Linen and Copper Metallic. Note: Tabby in this pattern results from using treadles 2 and 4.

SAMPLE C.

Tabby 2 and 4-6 x
2-3 x without tabby
1-3 x without tabby
Repeat as desired

Tabby 2 and 4-6 x
1-3 x without tabby
3-3 x without tabby

Upholstery is treasured if woven with care, Giving thought to its beauty as well as its wear, So choose for materials those tested and true,

To weave a fine fabric expressive of you.



Washed Sample

Shrinkage approx. 1 inch per yard length.

Draw-in 1 inch in width of 30 inches.

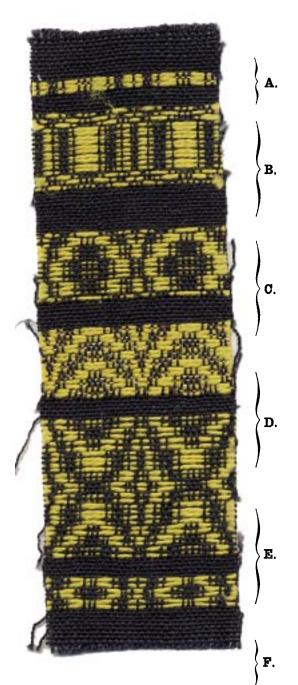
COTTON-LINEN

Warp: 20/2 Cotton—8400 Yd. Lb. Weft: 12/1 Linen —3600 Yd. Lb.

Pattern Thread: Cotton Perle 5 Tabby Thread: 20/2 Cotton

Standard Tie-Up

Warp Set 30 ends per inch



Treadling for Pattern (Honeysuckle)

Threading for Pattern

Alternate A and B tabby between all pattern shots except where indicated.

Sinking Shed: Rising Shed:

	C.		
4,1 - 1 x 3,4 - 2 x	$\begin{array}{cccc} 2.3 - & 1 \text{ x} \\ 1.2 - & 2 \text{ x} \end{array}$	Sinking Shed:	Rising Shed:
2.3 - 3 x	1.4 - 3 x		
1,2 - 4 x	$3,4 - 4 \times$	1.2 - 2 x	3.4 - 2 x
2.3 - 3 x	1,4 — 3 x	2,3 2 x	1.4 - 2 x
3.4 - 2 x	1,2 - 2 x	3.4 - 2 x	1.2 - 2 x
4,1 — 1 x	$2\dot{,}3 - 1 x$	4,1 - 4 x	2.3 — 4 x
-,	_,	1.2 - 2 x	$3.4 - 2 \mathbf{x}$
	D.	$\frac{1}{2}$, $\frac{1}{3}$ — $\frac{1}{2}$ x	1.4 - 2 x
	D.	1.2 - 2 x	3.4 - 2 x
4.1 - 2 x	2.3 - 2 x	$\frac{1.2}{4.1} - \frac{2}{4} \times \frac{1}{4}$	2.3 - 4 x
3.4 - 2x	1.2 - 2 x	,	
2.3 - 2 x	1.4 - 2 x	3.4 - 2 x	1.2 - 2 x
. *	_'.	2.3 - 2 x	1.4 - 2 x
1.2 - 2 x	3.4-2 x	1,2 2 x	3,4 - 2 x
4.1 - 2 x	2.3 - 2 x	75	
3.4 - 2 x	1,2 - 2 x	F.	
2,3 - 2 x	1.4 - 2 x	3,4-2 x	1.2 - 2 x
1.2 - 2 x	3.4 - 2 x	2.3 - 2 x	1.4 - 2 x
, –	,	3.4-2 x	1.2 - 2x
		-,	_,

The width of the project should be taken into consideration in choosing the tabby thread. The use of a tiny tabby thread on full width material allows the pattern threads to be beaten more closely together.

Washed Sample.

Linen and cotton are a sociable pair,
When woven together in something to wear,
And a bit of this pattern put in here and there
Will give you material with just the right flair.