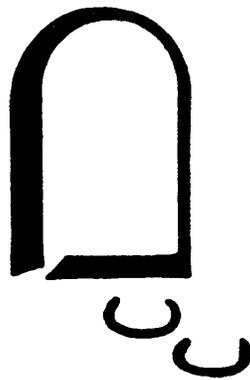


TERRACE TEXTURES

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for
Handweavers



TERRACE YARN SHOP

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PORTLAND 19, OREGON

VALUE

A good subject, made of well selected materials with regard to their inherent qualities of color and texture, coupled with a personal touch, is the recipe for all good creative work. The first and last are every variable, and the weaver who knows **why** color and texture combinations are pleasing is on the high road to improving his selection of them. This study of value aims toward this.

The study of value is one, if not the most, important consideration of design and color principles. Value may be defined as the distinction of light and dark. This can be by color or contrast. The latter is seen in black and white pictures or in photography, and, in weaving in movement from one texture to another.

Value in Colors

Imagine white graduated through steps of grey to black. Here is a movement in neutral values. Similarly, always think of a color in terms of this same graduated arrangement. These steps are due to the amount of black or white included. Likewise, colors in these value steps show this. The question, for instance, is not just "shall I use red?", but should be "what **kind** of red?". The color quality can be diluted or grayed. One sees diluted colors in the pastels or pale tones. The addition of various proportions of black and white (gray) to the dye gives a grayed color value.

Value in Texture

The same principle is involved in the matter of texture contrast. Technically, to the eye pure rays of light appear white and their absence as black. Textures tend to absorb light rays in varying degrees. Slick or smooth surfaces do not absorb but rather tend to reflect light. A high or light color value in this kind of thread is very obvious and should carefully be used as accent or highlight or when brilliance is desired. The more glossy the yarn the more difficult to blend in color. Velvet type or pebbly materials such as chenilles and rough boucles are those that absorb light and so can blend colors more easily.

Color Degrees and Effects

Colors appear as tints, shades, or grayed. Tints are a dilution or the addition of white to a pure color; shades are the additions of black to a pure color; while grayed colors are those containing a degree of both, or are a result of being influenced by the complement. (See color wheel.) Any color will be grayed by crossing with its complement in the web. This may or may not be pleasing. Similarly, any color will become more pastel in effect by crossing with white, or take on a shade by crossing with black. Because grayed colors contain the "relatives" (black and white) of all other colors they are easier to combine or blend with others than pure colors which otherwise might clash. The weaver should especially remember this in selecting color combinations.

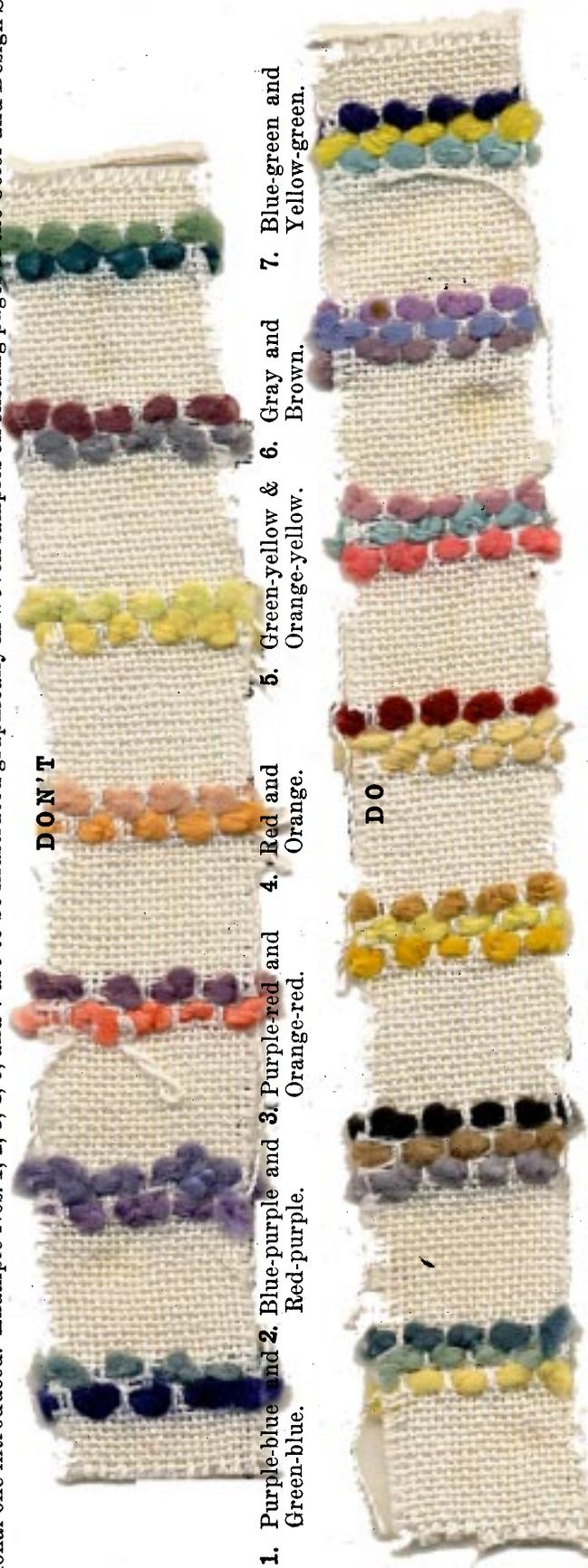
Observations on Color Value

1. Value is the key to pleasing color harmonies for it opens doors to constant new possibilities.
2. Black and white, being the extremes of the neutral value range, are the most striking and should be carefully proportioned.
3. Medium values are soothing, and similar values are always pleasing together, whereas great contrasts of value in a hue are often disagreeable. Hence a tint of a color used with a deep shade of the same one tends to make the light one even lighter and more dull. Remember: "Always have the colors tend to become brighter."
4. Different hues inherently have different values, too. These range from high to low as follows: Yellow (high) around the both sides of the color wheel to violet (low).
5. A neutral value takes on a different appearance when used with colors than when used alone.
6. Large areas of low value are helped by addition of a lighter value; i.e., heavy blues or purples.
7. A color looks brighter against a background of black or white.
8. One value should predominate in any project. One should have the feeling of seeing the colors within a piece as one.
9. Contrast and variety are watchwords in value.
10. Whenever the weaver mixes with a hue certain quantities of a neutral value of that hue or a neutral (as grays, tans, or white) the result is a kind of "frosted" appearance, a subtle "silvered" effect.
11. Repetition of a value tends to tie colors together.
12. A change of dark to light values in close proximity or relationship gives weaving the illusion of the dimensional quality of depth. (See Color and Design Series samples No. 9 and No. 12.)
13. Dark values have a tendency to accent and stand out.
14. Two values of a color are easier to bring together with another than a single one (See Series sample No. 2.) This is due to the tendency of "related" things to unify.
15. Purpose is a governing factor in selection. Example: a combination of strong orange and blue might be acceptable on a billboard, but could prove positively disagreeable in weaving. As they form a color harmony, the answer lies in change of value.

Light contains all colors—
They're related as can be,
Any go together,
But value is the key!

COMPARATIVE COLOR STUDY

This study in comparison presents a series of colors around the color wheel that exemplify combinations most often the subject of color prejudices. They are usually first contemplated as shown under the "Don't" heading. The same are again presented under the "Do" heading with a change of value suggested or an additional one introduced. Example Nos. 1, 2, 3, 4, 6, and 7 are to be illustrated graphically in woven samples on ensuing pages of the Color and Design Series.



- 1. Purple-blue and 2. Blue-purple and 3. Purple-red and Orange-red.
- 4. Red and Orange.
- 5. Green-yellow & 6. Gray and Brown.
- 7. Blue-green and Yellow-green.

Illustrates	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
(a) Change of value.	(a) Observation No. 6.	(a) Observation No. 6.	(a) Change of value.				
(b) Observation No. 14.	(b) Observation No. 14.	(b) Hot colors relieved by cool ones.	(b) Change of value.	(b) Obs. No. 13.	(b) Obs. No. 5.	(b) Obs. No. 13.	(b) Obs. No. 14.

Weave Shown:

Threading:			
3	3	3	3
2	2	2	2
1,1	1,1	Repeat	
Stripe		Tabby Section	

Suggested Uses of This Weave:
 (a) Pin stripes in self-color for wool suiting.
 (b) Novelty stripes in drapery.
 (c) Novelty or color stripes in mats or trim.

The two adjacent heddles on harnesses 1 and 4 contain the colored threads and all others the background color. The stripes can be placed at any interval in the warp, so can be multiplied or grouped.

Beat: Firmly.

COLOR VALUE STUDY

The samples shown on pages 15, 16, 17, and 18 of this series illustrate the problem of color value changes presented on page 14 of the previous lesson. Those shown in these samples exemplify color combinations under No. 1 and No. 7.

Warp Set
15 Ends Per Inch

Sample A

The Colors: On a background of purple-blue, the blue-green and yellow-green are lightened. This has a double effect of relieving the heaviness of the purple-blue and increasing the contrast with it, making them appear more brilliant. They are more closely related to each other and both act together in their complementary role to the dark blue more positively than if they were a lower value. The brightness of the rayon texture aids this also.

The color contrasts contribute to illusion of depth as the eye movement travels in a wavy outline.

The Design: Horizontal line dominates. Irregular rhythmic groups of stripes carry it out in plain and novelty yarn. The stripes could, of course, be woven of plain yarn only, but simple variety is achieved by bordering them with novelty rayon, adding a textured feeling. This is a simple device for trim in skirts: Border a plain stripe with novelty yarn in a closely related or self color.

The Thread: Warp: 10/3 Merc. Cotton—Twill Threading 2800 Yd. Lb.
Weft: Perle 5— 2100 Yd. Lb.
Novelty Rayon 1100 Yd. Lb.
Merc. Cotton

The Weave:	Yarn	Color	Treading
	Perle 5	Canary	Tabby
	Merc. 10/3	Purple-Blue	Harnesses 1,2 & 3,4 - 2 x
	Rayon Novelty	Light Green	Satin Stitch on 1,2,3 & 3,4,1 - 1 x each
	Rayon Novelty	Aquamarine	Twill—3 shots
	Rayon Novelty	Light Jade	Satin Stitch as above—3 shots
	Dark Blue Spacing		Tabby

Uses: This particular material is practicable for upholstery, but the design and color principles can be applied to linens, clothing, drapery, ascots, aprons, etc.

Sample B

The Colors: The aqua weft dominates the dark warp, although the color proportion is almost equal. The green yellow acts as accent and gives liveliness because of being a near complement and because of light hue value. The aqua illustrates the change to light value blue-green, and the third color of the touch of yellow makes the other two go together more pleasantly.

The Design: Shows materials treated to produced a "field" or all-over effect in a "close" movement both in color and material due to repeats of weave, color and materials at near intervals. The solid appearing vertical lines give the fabric a look of stability.

The Thread: Weft: 7/2 Linen—1050 Yd. Lb.; 12/1 Linen; 10/3 Cotton; Perle 5.

The Weave:	Threading—Twill.	Treadle:		
		1,2 - 1 x	Aqua	Beat hard.
		1,2 & 1,3 Simultaneously	Aqua	Place gently.
		1,3	Aqua	Beat gently.
		2,4	Dark Blue	Beat hard.
		1,3	Yellow	Beat hard.
		2,4	Dark Blue	Beat hard.

Uses: Upholstery, placemats, trim.
Either top or underside of this weave can be used.

Repeat

Determine the background color,
Then what feeling of line is to show,
Now pick out the contrasting colors
That will help your weaving to glow!



Unwashed Sample

Sample C



The Colors: "Hot" colors, the reds and their related hues of coral, orange, and pinks are shown, slightly broken by dark stripes of the background color. This serves to bring them together by relieving the stimulation of the bright colors and causing the latter to stand out more brilliantly.

The light jade hue, slightly blued, is an important factor in making this group a pleasing harmony. The complementary color highlights the array and acts as a cooling influence on it.

The Design: Rhythm can be found in the recurrence of the red bordering the stripes, and the movement from dark to light color values as well as recurrence of like colors and thread textures.

The full recipe, when woven, reveals a gradation of areas devoted to the skirt trim, and produces a lovely subtly gay arrangement for dirndl skirts.

The Thread Warp: Perle 20 Purple Navy 8400 Yd. Lb. Threading: Twill.

Weft: Cotton Boucle—1800 Yd. Lb. Perle 5 Deep Red 2100 Yd. Lb. Metallic Novelty.

The Recipe: Beat firmly.

Thread	Color	Treadle	No. Shots or Inches
Perle 20	Navy	Tabby	1 inch
Perle 5	Deep Red	Tabby	5 shots
Perle 5	Deep Red	Twill	4 shots
Perle 20	Navy	Tabby	2 shots
Perle 5	Deep Red	Twill	4 shots
Perle 20	Navy	Tabby	2 shots
Perle 5	Deep Red	Twill	4 shots
Metallic Novelty		Tabby	60 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Orange	{ Tabby	{ 3 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Blue-Jade	{ Tabby	{ 3 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Coral	{ Tabby 1,3	{ 1 shot
{ Cotton Boucle	{ Coral	{ Satin 1,2,3	{ 1 shot
{ Cotton Boucle	{ Coral	{ Twill 1,2	{ 1 shot
Perle 20	Navy	Tabby	3 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Rose	{ Tabby	{ 1 shot
{ Cotton Boucle	{ Rose	{ Twill	{ 1 shot
Perle 20	Navy	Tabby	½ inch
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Orange	{ Tabby	{ 2 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Rose	{ Tabby	{ 5 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Blue-Jade	{ Tabby	{ 5 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Coral	{ Twill (1,2 & 2,3)	{ 2 shots
{ Cotton Boucle	{ Coral	{ Satin St. (2,3,4)	{ 1 shot
{ Cotton Boucle	{ Coral	{ Twill (3,4 & 1,2)	{ 2 shots
{ Cotton Boucle	{ Coral	{ Satin St. (3,4,1)	{ 1 shot
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Orange	{ Tabby	{ 2 shots
Perle 20	Navy	Tabby	¼ inch
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Perle 20	{ Navy	{ Tabby	{ 2 shots
Repeat previous adjacent group 1 ½ times (omit the 2 shots of, Perle 20).			
Metallic Novelty	Helio	Tabby	1 ½ inches
Perle 20	Navy	Tabby	2 shots
{ Perle 20	{ Helio	{ Twill	{ 4 shots
{ Cotton Boucle	{ Orange	{ Tabby	{ 2 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 20	{ Helio	{ Twill	{ 4 shots
{ Cotton Boucle	{ Blue-Jade	{ Tabby	{ 2 shots
Perle 20	Navy	Tabby	2 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Coral	{ Twill (1,2 & 2,3)	{ 2 shots
Perle 20	Navy	Tabby	4 shots
{ Perle 5	{ Deep Red	{ Twill	{ 4 shots
{ Cotton Boucle	{ Rose	{ Tabby	{ 1 shot
{ Cotton Boucle	{ Rose	{ Twill	{ 1 shot
{ Perle 20	{ Navy	{ Tabby	{ ¾ inch
{ Perle 5	{ Deep Red	{ Twill	{ 2 inches
Repeat previous adjacent group			1 time
Perle 20	Navy	Tabby	2 shots
Perle 20	Helio	Tabby	Balance of skirt

Warp Set
27 Ends Per Inch



Unwashed Sample

COLOR VALUE STUDY

Warp Set
20 Ends Per Inch



Washed Sample

an even smooth look to the material, whereas the above colors give the illusion of more uneven texture, yet actually they are practically identical in material and weave.

The fact that any colors can be compatible if their values are adjusted should be kept in mind throughout this study. When one critically examines colors in any field he should know the principles involved in attaining this adjustment. Sample A on this page illustrates No. 6 of the color comparisons on page 14.

SAMPLE A

(1)

The Colors: (1) The change from a light to dark value brown in the combination with gray causes the eye to rest on one more than the other. This kind of dominance gives a settled feeling about the pair. If both values are approximately even in a pair of neutrals the result is a drabness. The introduction of the black, a 3rd neutral, being extreme in the color range, gives a definite accent to the combination, yet does not overpower so as to detract from the piece.

A

(2)

(2) This section of the sample replaces the black with color in the same treadling, and the amount of gray reduced so that the salmon dominates and the brown acts as the accent due to its being the dark value. The close ratio of the quantity of each color lends

Color Observations Exemplified

1. A neutral takes on a different appearance used with colors than alone. The gray of the sample is lighter appearing than if used by itself. It looks lighter in combination with the salmon as the black tends to tone its value down.
2. Dark values tend to stand out.
3. One value should dominate.
4. A change of light and dark values give illusion of depth.

The Thread: Warp—2-18 Worsted Wool
Weft—2-18 Worsted Wool. A (1) Double thread of each color.
(2) Single thread of each color.

5000 Yd. Lb.

Threading: Twill.

The Treadling: (1) 1,2—1 x with double thread.
2,3—1 x with double thread.
4,1—1 x with double thread.
3,4—1 x with double thread.

Repeat, alternating gray, brown, gray, black.

(2) Same, with single weft threads. Use 2 consecutive shots of brown alternated with 2 consecutive shots of salmon color.

Uses: Colors and Weave—Upholstery.

Material as Shown—Suiting.

“The value of this lesson
That we present to view
Is shown in two materials
That anyone can do.”

SAMPLE B

The Colors: Three values of brown are combined alternately to effect a "tweedy" looking material, blending them in a way that can be applied to many projects.

The ratio of the values should be noted. The three colors are alternated in the warp, but the weft contains a larger proportion of threads in the medium tone than either the light or dark one. This color ratio can be changed if desired. The more threads given to a color the more dominant that color. In the sample the whole effect could be darker or lighter according to this ratio.

This is a sample with many possibilities of interpretation if the weaver uses a little imagination. Some other color suggestions in corresponding values are:

Conifer	Brown	Wine	Analogous colors and monochromatic colors are
Jade	Chartreuse	Deep Red	most easily brought together with this type of
Aqua	Yellow	Rose	blending.

The Thread: Warp—14/2 Linen in Natural and Tawny Tan.
 12/1 Linen in Tobacco Brown combined with Supported Lurex in copper.
 Weft—Tabby Section: 14/2 Linen, Toast Brown.

Basket Weave Section—Mixed shuttle of:
 } 2 threads 14/2 Linen, Tawny Tan.
 } 1 thread 14/2 Linen, Cattail Brown.
 Tabby of 12/1 Tobacco Brown.

The Threading:

4 4 3 3 3 2 2 2 1 1 Repeat	4 4 Repeat 1 1
---	-----------------------------

Basket Weave
Section

Tabby
Section

**Warp Set
15 Ends Per Inch**



Washed Sample

Be sure to begin with the heddle on the opposite harness when adjoining the sections. For instance, if one ends the basket section threading on harness 3, the next heddle, in the tabby section, would be 1 instead of 4.

Treading: Tabby—1,3 and 2,4.
 Basket Weave—1,2—1 x with triple weft.
 1,3—1 x with 12/1 single.
 3,4—1 x with triple weft.
 2,4—1 x with 12/1 single.

The Beat: Hard, to make the mats firm.

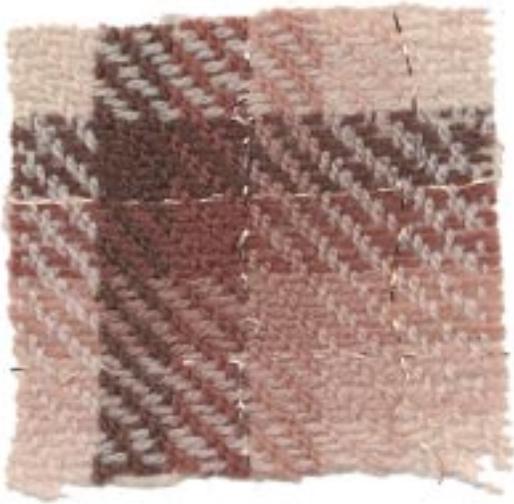
B

Uses: Place mats, drapery, upholstery.

Suggestions: Mats with or without tabby border. If all basket weave, do use solid color napkins to accompany them. Use darkest color of the mat for the napkins. Effective: Dark brown napkins, finish 12 inches wide, threaded singly by above pattern, using 1½ inch tabby borders and ends, of 12/1 linen for both warp and weft. Double weft for the basket section.

RADIATION

Warp Set
15 Ends Per Inch
Sample Steam Pressed



The characteristic of radiation always conveys a quality of aliveness in design. Like rhythm it is a sensed relationship rather than one that can be strictly measured. It, too, has movement. Some kind of contrast is necessary to express it. Yet, unlike rhythm, which can be shown in sharp or interrupted progression, radiation reveals a constant and recognizable ingredient. The contrast is always a gradual and orderly movement of one thing to another. Radiation does the "expected". The methodical advance of one and the diminishing of another reflects a certain vibrancy that is untiring.

What is all this to the weaver? The answer lies in the fact that here is one of the most useful and beautiful factors of design that can be expressed on the loom. It is one in which amateur as well as artist can participate and revel because it is direct and understandable. It is timeless, and so for handweaving, finds its part in long wearing projects as well as those more spectacular. The weaver's medium is a perfect one for display of the radiation principle in either the side by side alignment in the warp or the continuous build-up of the weft. Radiation is expressed on the loom through color, line, and texture.

Color Radiation

One of the most common color arrangements is that found in ombre color contrasts. It is the value diminishing order exemplified above, and could be shown in any monochromatic hue in a similar regular order. This is a simple, natural, uninterrupted type of color show that is conservative yet effective in the finished article.

Another color change is the gradual shift from one hue to another around the color wheel, which calls to mind analogous color arrangements.

It is important in any of these groups that the flow of color be in one direction at a time in order to retain unity and show character.

The Sample

- Warp and Weft:** "Fabri", approximately 2-18 wool. 4800 Yd. Lb.
- The Material:** This sample is shown half size. Most of the color squares of the suggested project will be one-inch square instead of the half-inch as shown.
- The Project:** Man's neck scarf. The quality of the material and the satisfying simplicity of design have a popular masculine appeal.
- The Colors:** A full repeat of the color sequence shown above is required in the warp, ending with the lightest color on the edges. In other words, there are two groups of the color sequence in the width of the scarf. The outside colors are warped 2 inches wide in the lightest color; the adjacent darkest color 1½ inches wide; and the others 1 inch each, in the center of the scarf.
- Quantity of Yarn:** **For 4 Scarves**
- | | |
|--|--|
| <p>Warp Requires</p> <p>225 yards of each color except the lightest and the darkest colors used.</p> <p>563 yards of the lightest color.</p> <p>458 yards of the darkest color.</p> | <p>Weft Requires:</p> <p>Approximately the same as the warp less loom waste allowance of 27 inches.</p> |
|--|--|
- Weave:** Each scarf to be warped 13 inches wide, woven 54 inches, and finished with 3-inch knotted fringes, allowing 60 inches of warp length for each. Total warp length—7½ yards, including wastage.
- Weft:** Beat very lightly to a "square" or 15 shots per inch. Repeat color sequence in the weft, ending with the lightest color if possible. Metallic may be omitted if desired.

"Life is known through contrasts.
 Design is much the same—
 For many of its minor parts
 Can to this truth lay claim."

Warp Set
21 Ends Per Inch

The weaver can express the gradual and orderly movement of radiation through line in these projects. The black and metallic are both in the neutral category and the effect is achieved purely by size and arrangement of lines in the weave and whole project. This could be carried out in color also with unusual results.

In the sample the metallic is entirely in the weft in tabby and twill shots, woven on a plain black warp.



Sample Steam Pressed

THE SKIRT

Warp: 2-24 Worsted Wool — 6000 Yd. Lb. Warp is set 36 inches wide in reed.

Weft: Metallic — 1/32 inch flat gold and silver; supported Lurex in gold, silver, and copper.
2-24 Worsted Wool.

Amount: The average skirt calls for 2 $\frac{3}{4}$ yards of warp length, plus wastage.

Each pleat is 6 inches of warp length. This includes 2 $\frac{1}{2}$ inches of plain black for the top of pleat; 3 $\frac{1}{8}$ inches of pattern coverage in metallic; plus 2 or 3 shots of black adjacent to the metallic on the underside of the pleat. The pleat when folded covers approximately 2 $\frac{1}{2}$ inches.

The Material: The loose reed sett allows the metallic to slightly show through the folded pleat, creating a lovely shimmering effect.

The Weave: All shots are tabby or twill except the flat gold and silver stripes, which are as follows: Harnesses 1,2; 2,3; 1,2. Weave 2 $\frac{3}{4}$ inches of black between metallic weft stripes. Beat lightly. Suggestion: Alternate the wide bands of copper with bands of gold in the pleats for variation and interest.

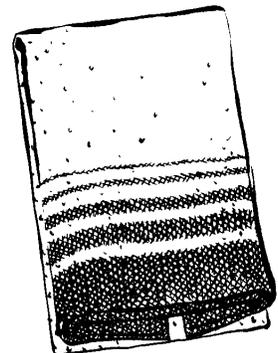
The Belt: Make belt metallic border 3 inches wide. Weave 3 $\frac{1}{2}$ inches of black tabby for back of belt.

Skirt Sketch



Border Trim

The graduated line contrast, though simple and age old, is satisfying and pleasing. It can be used and interpreted in many weaves and colors on scores of projects.



“Lines if placed in contrast
Will come to life, you’ll find—
A group can show direction,
Or shout their size or kind!”

TEXTURE CONTRAST

Here is an easy way to introduce eye movement into weaving. Contrast is developed by graduated thread sizes in simple tabby. The neutral is relieved by a slight variation in value. The 1½ linen in the weft is bleached.

THE SAMPLE

The Warp: Section A—Linen Sizes

1½	1 end	} 2 repeats = 1 inch
5/2 Sack Twine	2 ends	
12/2	1 end	
20/1 Wet Spun	3 ends	

Section B—20/1 Linen

The Weft: The same yarns are used in the weft. Top half of the sample is 20/1. Be sure to use Oregon wet spun linen in 20/1. The 1½ may be treadled with a twill or satin stitch to make it more prominent if desired.

The Weave: **Beat hard.** Any or all of the various effects in the sample can be used in placemats. Adaptations of these are useful in other projects as draperies or towel trim.

If texture is to be featured let the contrast in color be subdued.
All design factors cannot “speak” at once.

Variety by groups or spacing can be introduced without destroying the feeling of orderly contrast.

(a)
Warp Set
14 Ends Per Inch

(b)
Warp Set
23 Ends Per Inch

Samples missing.

Washed Sample

BALANCE

Balance, the arrangement of opposites in equilibrium, is a necessary ingredient of all life's smooth-flowing processes. To appeal to both the mind and the eye the handweaver meets this in his choice of material, design, and color selection. His object in balance is to obtain a feeling of satisfaction and repose in the project, a quality which is not always a measurable one.

Observations About Balance

In Materials—Like surfaces are more easily combined, whereas shiny ones must be decreased in amount if used with rough ones, often to the point of acting only as a highlight.

Be on the alert, however, for new combinations, and strive to bring their differences together in a feeling of oneness. Occasionally grasses are combined with metallics, silks with linens, or leather with wool with satisfactory results. The balance in use should be adjusted so that the variety of differences does not exceed the likenesses of different materials. Let them have some characteristics in common, and bring them together in a kind of complementary whole.

In Design—Two types of balance are evident in the formal and the informal. One sees the formal in identical sided projects with symmetrical thread-by-thread equality that can be counted. It is conservative, satisfying, and easy to do.

An elusive type of **apparent** balance is possible in areas and lines of the material. An area or line can be balanced by a smaller one if the latter is placed a little away from the center of the space used. Wide lines lend a feeling of weight and emphasis, but can be counter-balanced with groups of smaller ones. The space in which these are set can contribute to this. Horizontal lines speak tranquility, and vertical or diagonal ones convey an impression of energy and action.

In Color—The balance of color is a kind of visual alchemy produced from the color spectrum. The human eye demands an equilibrium in stimulation. By using opposites of the color wheel this is effected most sharply. The magic in color balance of opposites is due to the fact that they relieve and also compensate one another. The nearer together the colors on the wheel the less the contrast and the more conservative they appear. This is evident in the young and energetic who are attracted by strong complementary colors seen in uses like advertising, the nursery, in festive decorations, or in sport clothes. More conservative choose the monochromatic or analogous in grays, blues, tans, greens, or lavenders.

The idea of "the more opposition the more force" holds true of colors. The opposites of the Complementary or Triad harmonies are the most striking. (See Introduction for differences.) The inexperienced weaver does well to choose an appropriate basic color (see Color Impressions in Introduction) then reach across to a complement of similar quality in intensity and value. If a third color is used look to the other member of a potential triad and use a smaller amount of it. Remember how vitally a color's value affects the combination. (See again the study on Color Value.)

The Sample

Use: Necktie material. See planned project on page 24.

The Colors: **Sample A**—Dominant color: jade; complement: orange red.

Hues—Third color of the "near-triad" is the bit of light yellow relieving the intensity of the other two opposites. The dark value of red is used for variety and accent and helps the transition of one to the other.

Arrangement: The wide red stripe is forceful and contributes a masculine note to the material as well as being the center of interest. The scheme is built up to this from the single line to a semi-double and then to an emphatic line, then recedes in apparent balance, although it is not exact in weave or spacing, but only approximate.

Sample B—Equal areas of equal colors are illustrated. The monotony is relieved by alternation of weave, a device that is most usefully in lending variety to a formal or equal two-color combination. The change from tabby to twill causes contrast in color value also. The color relationships given could be transposed to their hues around the wheel in other projects and yarns with new and interesting results.

One can bring two colors together by: contrast of texture or weave, adding a deeper or lighter value of one of the colors, or using a third color in lesser amounts.

"There are 'ties that bind'
And ties that may blind—
But be sure your ties
Are a masculine kind!"

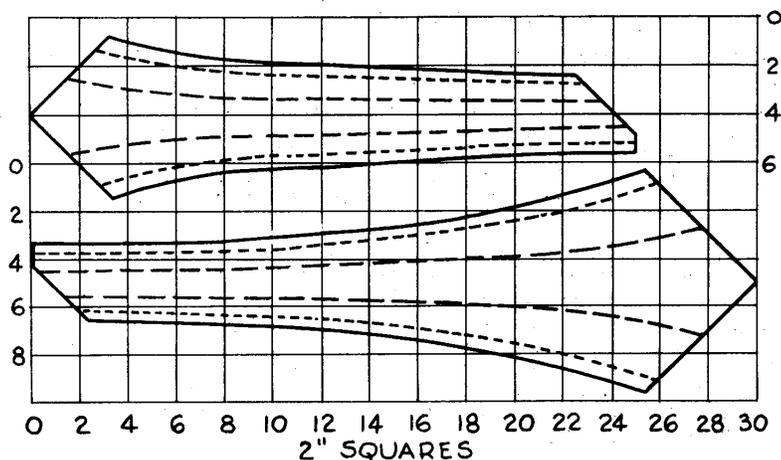
Sample A

Warp Set
24 Ends Per Inch
Washed Samples

Sample B

NECKTIE PROJECT

Basic Tie Pattern



The Weaving

Beat: Firmly but not hard.

Treadle: Tabby and twill. The bold red stripe is feathered out by alternating a small jade tabby between the last three shots of twill which are of 2-24 orange-red wool.

Tie Construction

Step 1. Sew small diagonal ends of tie together ($\frac{1}{2}$ -inch seam) right sides touching. Press open. (Avoid stretching the tie while sewing—all edges are bias!)

2. Fold the tie in half lengthwise, right sides touching, and sew along edge ($\frac{1}{2}$ -inch seam) from center to $3\frac{1}{2}$ inches from the large end of tie and to $2\frac{1}{2}$ inches from small end of tie.

3. Cut two forms of cardboard from the two pattern pieces to correspond with the actual size of the finished tie. This is the inside area shown on each piece. Slip these forms in the corresponding ends of the tie and press seam open.

4. Carefully turn the tie inside out. Insert cardboard form and steam press seam. Press tie so that the seam comes down the center back. Press unsewed ends back to form a straight edge to the ends of the tie.

5. Machine stitch the unsewed pressed edge $\frac{1}{16}$ inch back to $\frac{1}{4}$ inch from the end of tie, then along raw edge around tip, to the seam on the opposite side, sewing the opposite creased edge similarly. Repeat for opposite end of tie. Ravel $\frac{1}{4}$ inch around tip ends to tie to form fringes.

6. Repress, using cardboard forms always to prevent seam marks. These ties can be washed if handled with care.

Instructions

Draw out the 2-inch squares actual size on butcher paper. Sketch in the drawing in the same relationship shown. Cut this out along solid outside line for the exact pattern. Mark right side of pattern.

These patterns are laid right sides **up** on the material as shown in the auxiliary diagram to obtain 3 ties from 1 yard of 31-inch material with a minimum waste.

The Material

(For One Yard Finished)

Yarn: 2-24 Worsted. Set 33 inches wide in reed.
Amount: Warp: 1320 yards. Allow $\frac{2}{3}$ yds. loom waste allowance.

Weft: 600 yards of jade warp material.

Per repeat of Sample A:

16 yards Orange Red Saxony (dyed)
(material shown dyed)

9 yards Maroon Saxony dyed

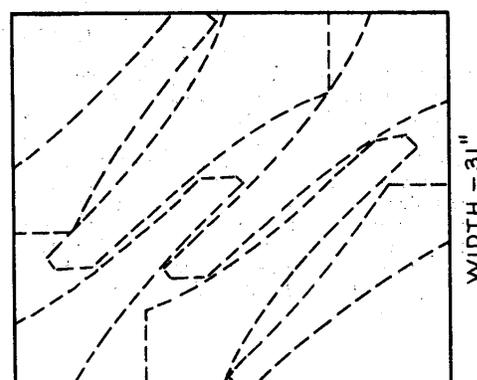
1 yard Deep Maroon Saxony
Doubled

1 yard Light Yellow Cotton Boucle

3 yards 2-24 Red

Use worsted wool for ties to insure long wear and retain shape. They need no lining. Avoid fussy materials and shiny boucles in large areas. Let the colors be gay and lively and not too grayed. This is the one spot of color in which a man can have flight of fancy! Keep to small sized yarns for the basic material to avoid bulkiness in tying. The pattern in these materials is made entirely in the weft.

It is possible to gain additional ties if two or three yards of material are made at a time. This can be scaled out on paper to test.



LENGTH - 1 YARD

Warp Set
24 Ends Per Inch

BLENDING COLORS

Here are ways to combine several colors in yarns in a plain material effect and inject variety into a fabric without lines or stripes. These samples show, in both smooth and rough or large and small yarns, how this is done, and show two visual results: (1) "Loaded Color" and (2) Textural Depth.

Loaded Color

This is a term given by painters and decorators to a one-color impression containing several colors or tones. The hand-weaver, too, must not lose opportunity to take advantage of combining them in yarns to bring out elusive qualities achieved in no other way. They are:

1. Richness and glow, brought out by the combination.
2. Softened color, resulting from the blending.
3. A subtle warmth, given the resulting color.
4. The resulting color tends to "pick up" related colors, or those that make it up, and so enhances and brings its surroundings together smoothly.

Textural Depth

Color alone can contribute to effect of texture contrast. The placing of dark with light values in Sample A adds a feeling of depth to this suiting material although all the yarns contained in it are smooth and close in size. Blending to obtain a color, therefore, when possible, makes for a richer texture in woven materials.

HOW TO DO

Choice of Colors:

1. Use tones of a single hue together in warp and weft, such as:
Yellows—Chartreuse, Lemon, Maize, Tan, Beige, Cream.
Greens—Aqua, Lime, Medium, Kelly, Conifer.
2. Analogous colors, similarly used, such as: Henna, Coral, and Pink.
3. Complementary colors, exemplified in these samples.

The Weave: For 4 colors in Twill Weave.

The tabby weave allows one to easily **control** the colors. In treading tabby of an alternate color warp, each shed will contain a solid color due to the threads of one color rising and the other below. In weaving, then, use

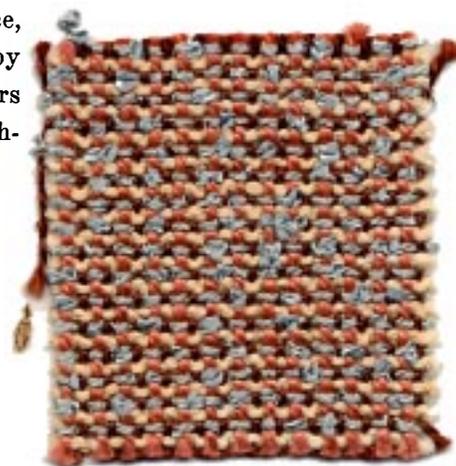
1. Alternate dark and light value yarns in the warp.
2. Use contrasting color values in the weft yarns.
3. Lay the lightest value weft yarn on the lightest value of warp thread, and the dark on the darkest value in the warp. Alternate the dark and light values in the weft in weaving.

This is important because the placing of the opposites on each other results in a line or stripe effect in the material. Remember, however, that for some projects this same simple effect can be part of the intended design. For instance, very attractive ascots, using this 4-color blend, may be decorated merely by treading various combinations of these tabby color stripes in the self colors used. Here is richness in simplicity again. A pick or two of metallic high-lights these.

Information about samples on reverse side.

"We call to your attention
What color blends can do
For each new situation
Can show them off anew!"

Warp Set
12 Ends Per Inch



Sample B

Blending Colors

(Continued)

THE SAMPLES

Warp Set
24 Ends Per Inch



Sample C
3-Color Blend

Samples A and C

Warp: 20/2 Cotton (mahogany) alternated with 12/1 or 40/2 linen (coral).

Weft: Sample A—20/2 Cotton (light blue and purple).
Sample C—Light Wool, Size 2-20 or 2-24 (aqua). 5600 to 6000 yd. lb.

Use: Summer suits.

Amount: For 6 yards of material, finished, 36 inches wide:

*Warp 7 yds. of 456 ends of each color. Set 38 inches wide in reed.

Warp: 1/2 lb. of linen and 1/2 lb. of cotton.

Weft: Same amount as warp in Sample A.

Sample C—1 lb. of wool.

Note: Several colors of accessories could be worn with suiting shown in Samples A and C. Browns would accent the blue-green in Sample C, while corals would bring out the coral highlight shown in it.

This same color phenomena prevails in the matter of upholstery. Related colors in furnishings or color accents in a room have this same effect of tying the whole together.

Samples B and D

Warp: Perle 3 (deep rose pink) alternated with Perle 5 (mahogany).

Weft: Sample B—Carpet Warp and 7/2 Linen.
Sample D—Cotton Boucle, 1850 yd. lb., and Rayon Boucle, 1500 yd. lb.

Note: Although cotton and linen are used to tell this color story, they could be replaced by wool in either warp or weft. A tap-
estry yarn or 3-ply yarn is suggested. A part wool fabric is rich, soft, and long wearing, and soils less easily.

Use: Upholstery.

Amount: For Six Chairs (Sample D)—Finished material, 6 pcs. 24"x24".

Warp: *5 1/2 yards of 312 ends (156 ends of each color). Set 26 inches wide in reed.

Weft: Approximately 1 lb. of each material.

Colors: Note the use of color complements to enhance one another, yet to give a one-color impression. The "blue" is really a "lead" color, but appears blue when combined with its complement.

All samples are washed.

*Loom waste allowance of 2/3 yds. included.

Page 26

Warp Set
12 Ends Per Inch



Sample D

BLENDING COLORS

Analogous Colors
Mixed Materials

These samples show a further study of combining materials and colors in tabby weave. The same warm colors are alternated in the warp here in large cotton and wool yarns. The weft points out additional and ever-present possibilities of adventure by repeating one of the shots in the same shed, or of doubling the weft thread to obtain an effect. The weft colors are restrained to dark and light neutrals with a binding tabby shot in the darkest background color. The two types of beater action show, with similar sized yarns, how completely different types of materials can result.

A smoother, less textured surface appearance is achieved by lessening the value contrast in the warp. The closely related colors of the monochromatic and analogous harmonies are more easily combined in the open, loosely beaten type of weave, whereas the close texture firmly beaten materials as seen in upholsteries can employ or blend the complementaries to advantage.

Suggested: On this same warp, experiment with other colors and values. For instance, try turquoise and navy in rayon boucle and wool, alternated, laying them on the light and dark warps respectively, then on the opposite sheds. Treadle several shots of each.

Sample A.

Warp: Perle 3 — 1250 yd. lb. Spanish Sock Yarn — Approx. 2500 yd. lb.

Weft: Linen Boucle — 1600 yd. lb. Perle 3. Perle 5, 10, or 20.

Threading: Twill.

Treading: Tabby, throughout. The dark value Perle 5 weft thread is again laid on the dark value warp. It is followed by 1 shot each of the Linen Boucle, Perle 3, and Linen Boucle respectively. Do not beat the weft close together, but allow a space between the group of 3 and the single dark thread. Beat on the Perle 3 and the following shot of Linen Boucle. The appearance and texture of this drapery is entirely changed by beating this material hard. The slight shrinkage of the wool in washing tends to set the yarns in place.

A.



Washed Sample

Warp Set
12 Ends Per Inch



Washed Sample

Sample B.

Warp: Same. Threading: Same.

Weft: Perle 3 doubled, Perle 20.

Weave: Called "Window Pane", this material is entirely in tabby also. The Perle 3 is wound double on the bobbin. (Suggested in winding: Bring the ends from two spools on the floor up through the teeth of a comb about $\frac{1}{4}$ inch apart. Restrain yarn as it flows onto the bobbin and the yarns will lay flat with little crossing.) Lay the Perle 3 shots across the light value warp always. Space the groups by single or triple shots of the dark Perle 20 or a fine wool. It is necessary that the colors be kept in this relationship to show the "pane" effect, the light surrounded by a dark color.

B.

Beat: Be sure to beat hard both before and after the change of shed to make a firm upholstery material.

"No one can tell what colors will do
When brought together in weaving.
By trying, you'll find that many combine—
Do it! — for 'seeing is believing'."

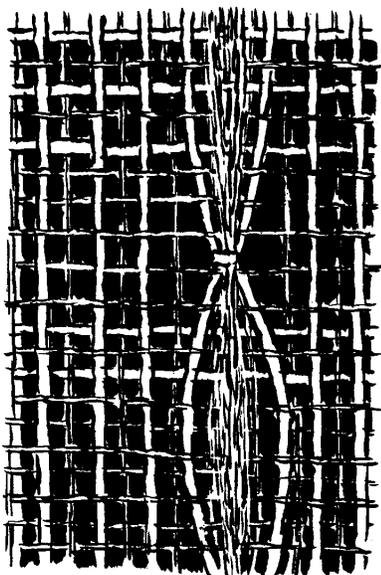
BLENDING MATERIALS AND COLORS

The weaver should not overlook the potential of design in loose weaves often seen in light-filterable fabrics of draperies, scarves, and stoles. The warp for such materials, however, must be set close enough to hang or drape well. The finer the yarn the more dense the warp sett, especially if all smooth yarns are used in order to interlace firmly to hold the weft in place and avoid a sleezy appearance. The larger yarns are set more open. Both are illustrated in these samples.

SAMPLE A

The modern home with its accent on light often calls for filterable unlined drapery. This one is attractive and very easy to make, and the spacing of the trim may be varied greatly.

The Material:



Warp: Cotton Boucle — 1000 yd. lb. Viscose and Acetate — 1200 yd. lb.
Trim: *Rayon Twist 3/3 — 2850 yd. lb.

Weft: Raw Silk — 1200 yd. lb. Linen and Rayon Boucle — 2700 yd. lb.
The two warp threads are alternated in a 9-dent reed, sleyed single. The regular 18th thread is omitted and replaced by 5 warp ends of the Rayon Twist placed in one dent. These 5 rayon threads together with the two adjacent warp threads on each side of them form the group of warp to be picked up in making the lace spot. The wider the group the more prominent the "spot".

The Weave: Threading — Twill. Be sure to place all boucle threads on harnesses No. 2 and No. 4, and plain warp (not the rayon) threads on No. 1 and No. 3. *The rayon is threaded in separate heddles in regular order.

Treadle: Tabby, alternating linen boucle and silk. Always lay plain weft yarns on the plain warp yarns in the shed, and the rough ones on rough to preserve even appearance without lines or stripes as instructed previously. This is true of texture as well as color.

The Lace Spot: These can be spaced along the warp as desired in even distribution over the entire drapery or groups of lace at intervals,

etc. The picked-up groups can be inserted anywhere but the satin stripe formed by the rayon emphasizes them.

How To Do: Pass the shuttle containing the linen boucle over the boucle shed. Change shed and keep open. Then from the right side pass the same shuttle (or better, use a large blunt "jiffy needle" containing a long strand of yarn) through the shed to the 1st boucle warp thread on the opposite side of the 1st group to be picked up. With the left hand pick up the adjacent plain warp thread (on the bottom of the shed) and bring shuttle or needle under it and out on top of the warp. With the left hand pick up the entire group, including the 1st plain warp thread on the right side of the group, pass shuttle back over and under the entire group and come out on top again, drawing the weft thread taut with the left hand. Repeat, holding and drawing the weft

Warp Set
9 Ends Per Inch



thread taut between groups. Continue across width of warp until the spots and the weft thread is completely placed. Beat slightly, change shed, and lay another linen boucle shot across before continuing the alternation of silk and boucle.

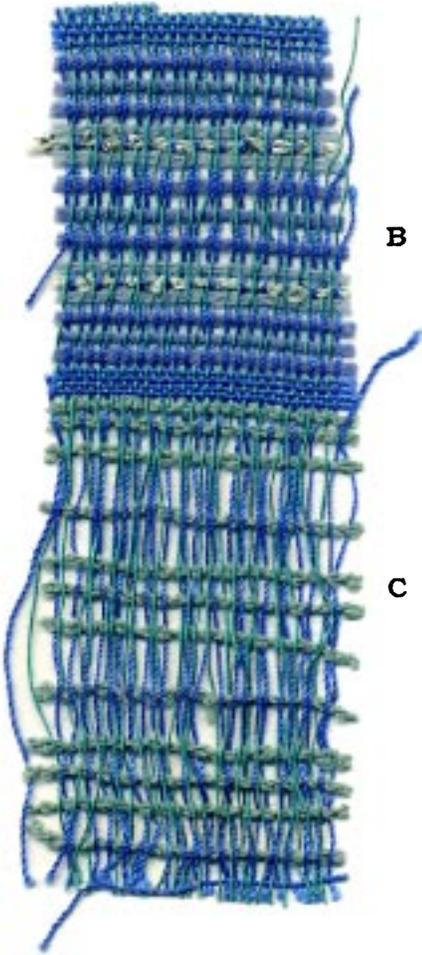
The finished material has a lovely soft draping quality. The sample has been stiffened to prevent raveling in showing this lace "spot".

*Because the gathered group of warp threads tends to draw up or shorten in weaving, it is advisable to wrap the warp of the 5 rayon ends on a single spool, and allow the spool to hang over the rear breast beam instead of warping in on the regular warp beam. A rubber band can be wrapped tightly around spool to prevent unrolling while weaving.



SAMPLES B AND C

Warp Set
30 Ends Per Inch



Pressed Sample

The Material:

Warp: Cotton Perle 20 — 8400 yd. lb. 40/2 linen — 6000 yd. lb.

Weft: Sample A — Spanish Sock Yarn — 150 yd. oz.

Sample A — Rayon Boucle — 1500 yd. lb. 18/2 Wool

Sample B — Wool Boucle Dress Yarn — 165 yd. oz.

B A part linen warp adds body and a slight crispness to a fabric, while the cotton is excellent in combination for draping quality and softness.

The Colors: This third study using an alternate color warp shows how colors react on one another. Note the following:

- (1) On alternate color warps two distinct colors can be raised in the two tabby sheds. The same color of weft yarn, therefore, may take on a different hue under these sheds as is evident in both samples. The monochromatic and analogous color combinations are particularly effective for this; i.e., various values of green, or purples and red respectively. Remember the fuchsia! Nature is full of suggestions, and very few of them, if any, are a flat one-color show. Blend colors for effectiveness. Try other hues in similar relationship as the hues in the samples.
- (2) Bright colors blended together tend to soften each other.
- (3) Great variety of colors is avoided. Fairly equal values are used. The weft is somewhat grayed.
- (4) The rayon in Sample B gives highlight and variety, but its introduction is softened by the shots of fine similar colored wool bordering it. One finds it often advisable to break a sharp contrast like this by an intermediate one in either color or texture. Otherwise many shiny type threads often protrude like the proverbial "sore thumb". Try to achieve a "oneness" in the appearance of any material so that the eye does not readily focus on individual threads but rather sees them as a whole.

Weave: Threading — Twill.

Treadle: Sample A: $\left. \begin{array}{l} 1,3 \text{ (tabby)} - 1 \text{ x} \\ 2,4 \text{ (tabby)} - 1 \text{ x} \\ 1,3 \text{ (tabby)} - 1 \text{ x} \end{array} \right\}$ Wool Sock Yarn. Place $\frac{1}{4}$ inch apart.

$\left. \begin{array}{l} 2,4 \text{ (tabby)} - 1 \text{ x} \\ 1,2 - 1 \text{ x} \\ 2,4 \text{ (tabby)} - 1 \text{ x} \end{array} \right\}$ Fine Wool.
 Rayon Boucle. Beat group close with a gentle tap.

Sample B: $\left. \begin{array}{l} 2,4 - 1 \text{ x} \\ 3,4 - 1 \text{ x} \\ 2,4 - 1 \text{ x} \\ 1,3 - 1 \text{ x} \end{array} \right\}$ Beat close with short tap.
 Interval Thread.

Uses: Drapery, stoles, runners, scarves.

Wash gently or dry clean.

Tabby is a basic weave,
 Its novel ways neglected,
 A little thought, plus color use,
 Brings beauty, unexpected.