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Third Meeting-Second Year

DYEING, TINTING AND TIE-DYEING

by

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EXTENSION SERVICE

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In the present day the housewife wants to make use of every available article of clothing, nothing will help her renew the appearance of old clothes more than the use of dyes. There are many kinds of dyes used by the manufacturers of textile fabrics, but the household dyes are the only ones practical for the inexperienced dyer because they can be bought in small quantities and do not require the use of chemical to set the color.

Household Coloring Products may be classed under tints and dyes:

1. Tints---the coloring substances dissolved in warm water and then the material dipped in the solution. These are not fast colors and the articles have to be retinted after each laundering. There are a number of commercial dye soaps on the market which are used for tinting. Crepe paper, red ink, tea and coffee, will produce characteristic tints.
2. Dyes---the coloring substance is dissolved in boiling water and boiled into the fiber, which makes possible a thorough penetration and an even and fast color.

Household Dyes are divided into the following classes:

1. Acid colors---silk and wool dyes which require an acid to set the color. (Vinegar).
2. Direct cotton dyes---cotton and linen dyes which require the addition of salt to set the color.
3. All fabric dyes---dyes which will dye all fabrics, cotton, wool, silk or linen in the same dye bath.

#### Equipment:

No elaborate equipment is necessary for home dyeing. A large utensil to contain the dye bath is essential, but any smooth, clean, aluminum, enamel, or tin vessel of sufficient size to hold the material without crowding in the dye and a fine wire strainer in which a small piece of cheese cloth may be placed, is used for straining the dye.

As the material must be kept in constant motion the entire time while in the dye bath, smooth wooden sticks, aluminum spoons, or glass rods taken from a towel rack should be used. Two broom handles cut in two foot lengths with the ends rounded are satisfactory for dyeing large pieces. If wooden sticks are used it is best to have a separate set for each color. To secure the best results the material should be weighed while dry. Any ordinary scale may be used.

Since the dye to be fast must be boiled into the material it is necessary to have heat of some kind. An oil or electric stove is most convenient for regulating the amount of heat, although a coal range will do.

Materials dry best out of doors but they should not be hung in the sun as bright sunshine will many times cause streaking. The material should be hung with no overlapping and opened out.

Preparation of Material:

Garments may be dyed in the whole but probably for the inexperienced dyer best results will be obtained by dyeing in the piece. It is necessary to give the dye a chance to get evenly into the fiber in all parts of the garment. In garments with seams, plaits, tucks, hems, or padded linings it is much harder for the dye to get into the cloth than if it were dyed in pieces. However, whether the garment is ripped or not, it is necessary to have all the spots and stains removed and all starch washed out.

General Directions for Dyeing:

I. Preparation for dye bath

---acid colors and direct cotton dyes.

- a. Weigh dry material.
- b. Dissolve the dry powder in a separate and smaller vessel by first stirring in a cup of cold water for each package of dye used. Then add 1 quart of boiling water for each package of dye, stirring and boiling until thoroughly dissolved.
- c. Strain dissolved dye into the bath made up of enough warm water to float the material easily, which is about three gallons for each pound of material.
- d. Stir thoroughly and add salt for cotton material, about one-fifth of the weight of the material. For wool or silk add two tablespoonsfuls of pure vinegar for each pound of material.
- e. Test dye with sample to make sure resulting shade is satisfactory and stir thoroughly.
- f. Enter the material wet and keep in constant motion.
- g. Bring dye bath gradually to a boil. Boil at least half an hour or until desired shade is obtained. Do not boil vigorously but maintain at the boiling temperature.

Care of Material After Dyeing:

- a. Rinse in cold water until water remains clear.
- b. Squeeze gently.

- c. Dry quickly, shaking out all folds. Cotton should be dry before pressing. Wool and silks should be pressed while still damp.
- d. Press wool and silk very carefully, ironing, each part dry before beginning a new part. Material left half dry or half ironed will look rough and unattractive when finished.

## II. Preparation for dye bath---all fabric dyes.

Ingredients: For each pound of white material weighed when dry.

### Dark Colors

2 cakes dye  
2 qt. hot water  
4 oz. salt  
3 gal. hot water

### Light Colors

1 Cake Dye  
1 pint hot water  
4 oz. salt  
3 gal. hot water

Note 1-The amount of water depends upon the nature of the material, as there must be sufficient liquid at all times to keep the material well covered.

Note 2-The above are amounts given for white materials, if the material is already colored. Allowance must be made and correspondingly less dye used.

- a. Weigh dry material.
- b. Cut required proportions of dye cakes to be used into shavings, handling with dry hands.
- c. Dissolve the dye in a small pan using two cups of hot water to each dye cake.
- d. Strain the dissolved dye through a thin white cheese cloth into hot water, three gallons of water to each pound of material.
- e. Stir thoroughly and allow dye bath to come to a boil.
- f. Test dye with sample.
- g. Put the material in wet and keep in constant motion.
- h. Simmer (temperature 210 degrees) for ten minutes.
- i. Lift material out of the bath and keep it just below the boiling point for twenty minutes.
- k. Remove dye bath from the fire.
- l. Note--Cotton material takes dye at a low temperature, therefore, when working with dark colors it is well to allow the material to remain in the cooling dye bath for ten or fifteen minutes after it has been removed from the stove, stirring constantly. Then remove from dye.

Care of Material After Dyeing:

- a. Rinse material in warm water and enough changes of water until water remains perfectly clear. Note--Heat wrinkles, the common complaint with dyers, are caused by crowding wool material in the dye bath, or by placing the dyed garment directly from hot to cold water. There should be a gradual change from a higher to a lower temperature, the first rinsing water being about 170 degrees, or about as warm as the hand can stand it without discomfort. The second should be slightly cooler.
- b. Squeeze water out of material.
- c. Dry material in the shade.
- d. Press while still damp, using a pressing cloth between the iron and the material.

Dyeing Faded Colors:

It is always easier to renew the original color of a faded garment, in the same color order, than to attempt to change the color. That is, dye faded blue either by renewing the original blue or dyeing it a darker shade of blue. Light colors can be dyed darker colors but is never possible to dye a dark color into a lighter one.

Wool, faded by sunshine, has its chemical properties somewhat altered. This change is slight but sufficient to affect the dyeing of such material should be dyed only dark colors.

The same amount of dye is not required to renew the color in a faded garment as to dye a white garment, on account of the color still present in the faded one. Hence, the amount of dye needed to renew a color is in proportion to the amount of color left in the old garment. A garment that was originally a bright blue and has lost about one-half of its color, if dyed back to the original will require about one-half the amount of blue dye that would be needed to dye the same garment if it were white.

Top Dyeing, or Dyeing One Color Over Another:

Many times we do not wish to dye material in the same color order, but as the original color of the material is one color in this new combination, it must be considered as such in planning the new color. It is possible to make practically any color when dyeing white and it is comparatively easy to dye material in the same color order, that is making a medium blue into a dark blue. But one should work carefully when dyeing one color into an entirely different color. The ground, or old color, really determines the new color.

<u>New Dye</u>		<u>Original Color</u>		<u>Result</u>
Blue	over	Red	gives	Purple
Blue	"	Green	"	Blue Green
Blue	"	Yellow	"	Green
Red	"	Yellow	"	Orange
Brown	"	Blue	"	Dark Brown
Brown	"	Green	"	Olive Green
Brown	"	Red	"	Seal Brown

In dyeing a color over its complementary color, the complementary color will have the same tendency to flatten or dull the new color as if it were added to the dye bath. For example, if blue were dyed over orange, the orange will have a tendency to flatten the blue and give as a result a dull blue green color to the whole.

In top dyeing it is best to wash the garments in hot water and soap in order to remove all loose color which would otherwise come out in the dye bath.

Stripping:

A garment can be dyed a darker color but never a lighter color. It is often possible to remove a great deal of the old color from the garment before re-dyeing. The garment may then be dyed a fairly light color. The color can usually be removed from silk by boiling gently in soap and water. Care should be taken not to continue this operation too long, not more than twenty to thirty minutes, and the water should not be allowed to reach a temperature of over 190 to 212 degrees, as excessive boiling may weaken the fiber.

Ammonia and water may be used to remove color from wool. The stripping bath should be kept at a temperature of from 180 to 212 degrees. Cotton can usually be stripped by boiling in clear soft water, or in water to which a little Javelle water has been added.

When removing color remember that it is the opposite of dyeing and therefore, as soon as the stripping water has become discolored it must be changed as otherwise there is danger of boiling the color back into the material.

Re-Dyeing Chart:

<u>Present Colors</u>	<u>May Be Re-Dyed</u>
Light Blue } Gray }	-----Light or Dark Green Wine, Light or Dark Brown, Bright Blue, Navy Blue, Purple, Taupe, Black.
Bright Blue ) Old Blue )	-----Dark Green, Navy Blue, Purple, Dark Brown, Black
Pink)-----	Any shade except a very light tint of blue.
Old Rose)-----	Scarlet, Cardinal, Wine, Light or Dark Brown, Navy Blue, Taupe Purple, Dark Green, Black.
Heliotrope)-----	Cardinal, Wine, Light or Dark Brown, Navy Blue, Purple, Dark Green, Black.

Scarlet)	-----	Cardinal, Wine Dark Brown, Black.
Cardinal)	-----	Wine, Dark Brown, Black.
Sand)	-----	Scarlet, Cardinal, Wine, Light or Dark Green, Light or Dark Brown, Taupe, Navy Blue, Black.
Yellow)		
Orange)	-----	Scarlet, Cardinal, Wine, Light or Dark Green, Light or Dark Brown, Black.
Light Green)	-----	Dark Brown, Dark Green, Black.
Light Brown		
Taupe	)	
Wine	)	-----Dark Brown, Black.
Purple	)	
Navy Blue	)	
Dark Brown	)	
Dark Green	)	-----Black
ALL COLORS	)	-----May be re-dyed the same color or a deeper shade of the same color or black.

### Tied and Dyed Work:

This work depends upon the combination of colors for its artistic effect. It produces rather irregular patterns by means of knotting the material or binding it with heavy twine or string. When the material is dyed the color will not penetrate the bound parts. Remnants of silk, satin, velvet in light tints, may be used. The satin gives a beautiful effect on account of its luster.

Elaborate all-over effects may be produced by folding the cloth lengthwise and then tying a width of several inches with a broad piece of tape. If not tied too tightly the color will work up and down the folds and give an uneven wavy effect. For sunburst effects pull the cloth into a loop where the center of the sunburst is to be and tie around and around with twine, twisting the material as you proceed to bind. It is well to work out the color combination and have the center of the sunburst brilliant in color. The general rule for tying small knots is to have the string tight and try for a more clearly defined effect. The larger tied knots should have the cloth folded, twisted or gathered so that some of the color may work up into the material, giving shaded effects which are very beautiful.

### References:

Modern Home Dyeing, by Martha Jane Phillips, Price \$1.50 North American Dye Corporation, Mount Vernon, N. Y.

Manual of Dyes and Dyeing, Published by Educational Dept., Wells and Richardson, Company, Inc. Burlington, Vermont.