Topic: TEXTILE AND CLOTHING

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Printing

Designs are applied on fabrics by means of printing. Printed fabrics are defined as those that have been decorated by a motif, pattern or design applied to the fabric after it has already been constructed (Marjory-Joseph, 1977) Printing can be done by two basic methods - Resist printing and Direct printing.

Resist Printing: Resist printing is done by preventing the dye to enter some specific portions of the fabric by some methods.

1. Tie and Dye: Fabrics are made into tiny puffs with some object inside and tied with a waxed thread wherever the dye has to be prevented. The fabric is immersed in the dye solution. If two or more colours are desired the thread is removed and the fabric retied. After drying the object is removed. Other methods of tie and dye include folding the fabric and stitching it and pulling the threads to draw the fabric to resist the dye from penetrating into the fabric, called as **tritik**. Tie & dye fabrics are quite popular in apparel and home furnishings

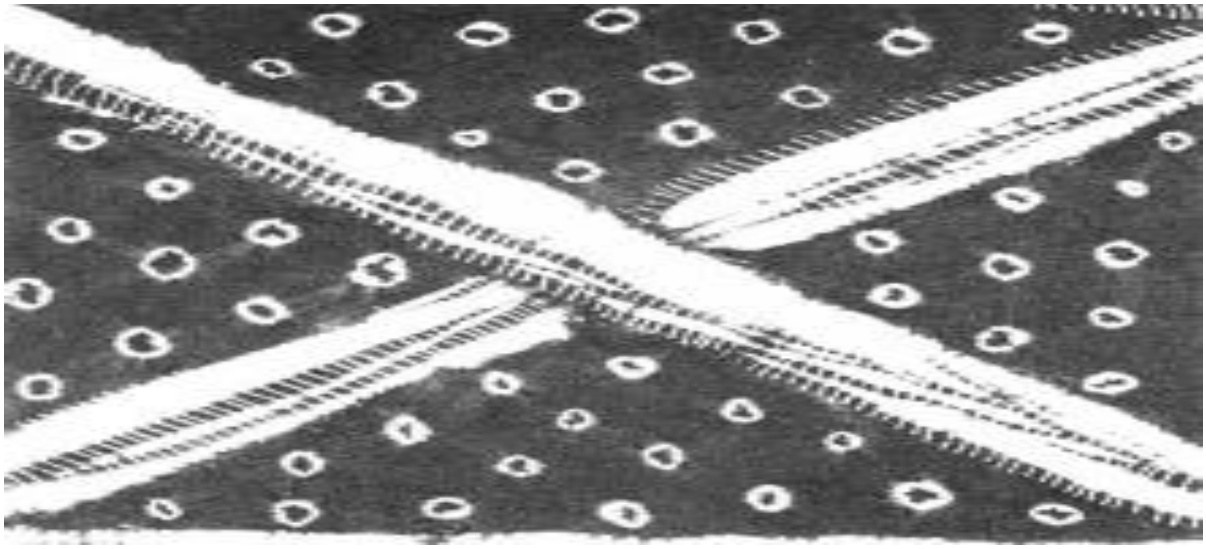

Fig.1-Tie and dye

2. Batik: A resist method developed by the Javanese involves wax as the resist substance. A copper cup called tjanting is attached to a reed handle. The wax is taken in this tjanting and applied in the design areas, wherever necessary to resist the dye. The fabric is immersed in dye solution. The wax resists the dye from entering the fabric. In some places it forms cracks and forms fine lines in the design. The fabric is later washed in boiling water to remove the wax.

Fig. 2 – Batik

3. Screen Printing

A screen resist is made by covering a frame with bolting cloth of silk, metal or nylon filament yarns. The fabric is covered with a film and the design areas are cut out of the film. Some areas of the mesh are left open to allow the dyestuff to pass through and print the fabric. The frame is laid on the fabric, and the dye is placed at one end of the frame. A rubber knife moves the dye across the screen and forces the dye through the open mesh of the fabric, one screen is prepared for each colour. Screen printing is considered by many textile authorities to be newest method of decorating fabrics.

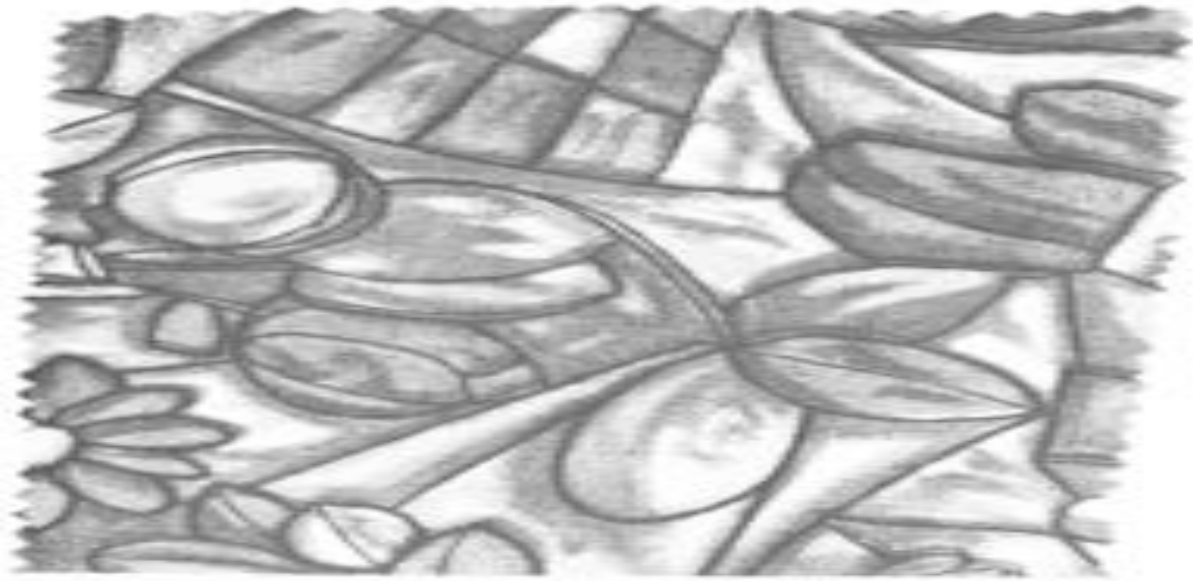

Fig. 3-Screen printing

4. Discharge printing:

Discharge printing is used to print designs on fabrics which has been previously dyed. A reducing bleach is used which removes the base dye and leaves a white pattern on a coloured ground. Dark fabrics with white designs such as polka dots are examples of discharge printing.

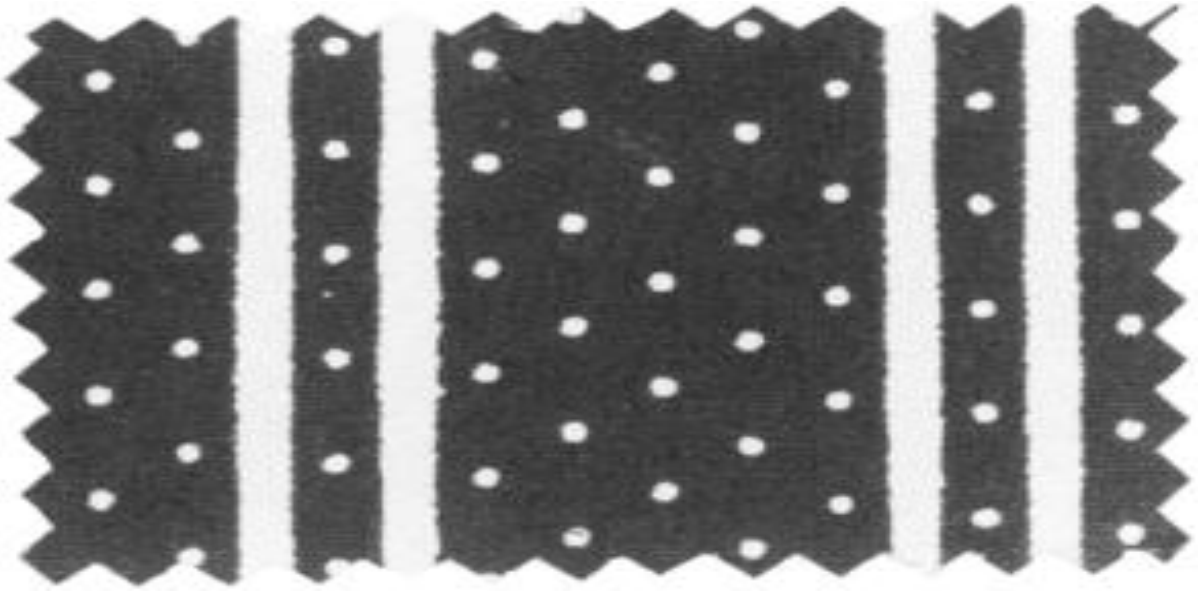

Fig.4 -Discharge printing

Stencil printing: Stencil printing was developed by the Japanese. Designs are cut in stencil paper which is coated with wax. The stencil designs are placed on fabric and colour is applied by sponge, air brush or by spray gun. This method is done on minimum fabrics like scarves and similar products.

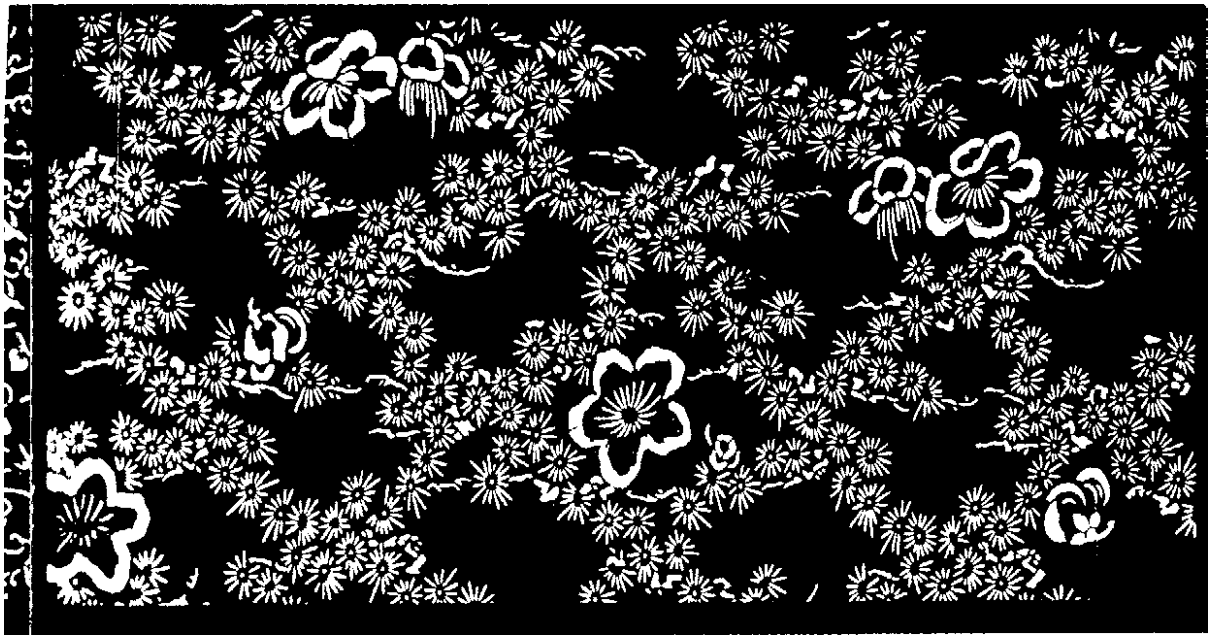

Fig.5 -Stencil printing

Direct Printing: Direct printing is the method of applying colour directly on to the fabrics by one of the following methods.

1. Roller Printing: Designs are engraved in metal rolls and arranged around a main cylinder and locked into place. Many rolls can be used. A trough containing the dye solution along with a doctor blade which scrapes of the excess dye is placed for each roll. The large cylinder is covered by a padded blanket and a grey cloth is used on top of the printing blanket. The cloth to be printed is on the outer surface. The layers move together, the rolls take up the dye from the trough print on the cloth as it comes and goes to the drying oven which sets the colour on the fabric. Roller printing is steadily increased during the past decades for its quality prints and unusual patterns produced.

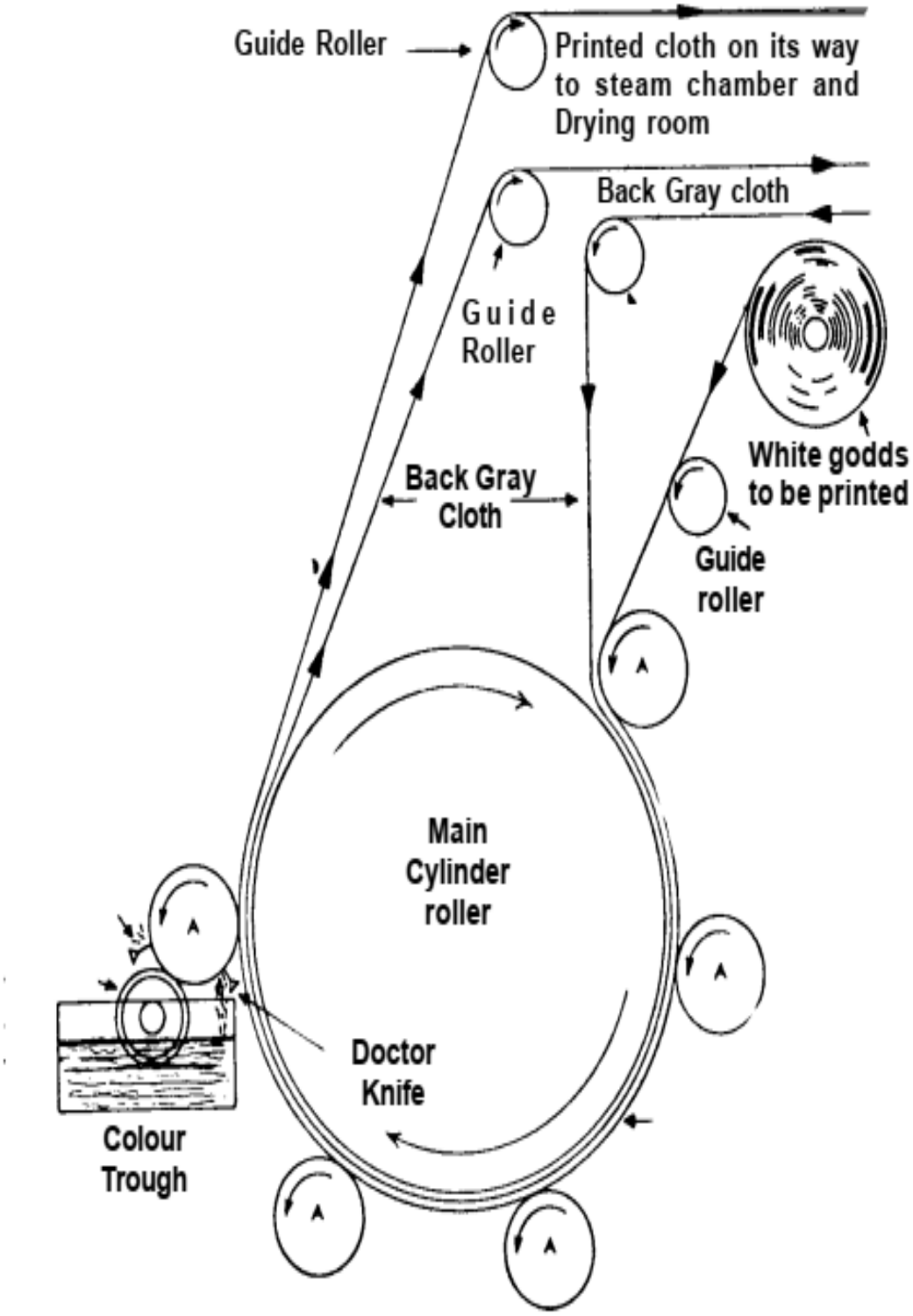

Fig. 6 - Roller Printing

2. Block printing: Block made of wood or metal are engraved with designs. Each block prints only one colour. The blocks are dipped in dye solution. Only the raised portion in the blocks picks up the dye and is then pressed on the fabric, forcing the dye to be printed on the surface.

Fig. 7 -Block printing

3. Duplex prints: Duplex prints are produced by modified direct roller print equipment. The design is made by a machine, which is set up to print on both the face and back of the fabric.

4. Photographic prints: Photographic prints are made similar to that used in making photograph. A negative is placed on the fabric and light is transmitted to it and the design is developed. The fabric is washed and the design is as permanent as a photo.

5. Transfer printing: Transfer printing involves heat and pressure. The dye in the desired design, is first printed onto a special paper. The paper is laid on the fabric and the design are transferred by-sublimation. The dye is changed from solid state on, the paper to vapour and again changes to solid and fixes on the fabric. The heat sets the colour on the fabric. Transfer printing is suitable for nylon and some acrylic fabrics.