



MEADOW LARK

BY DAN COOPER. BROWN WITH TOUCHES OF RED ON WHITE GROUND.
COTTON AND RAYON ANTIQUE SATIN.
COURTESY OF DAN COOPER.

AMERICAN SCREEN-PRINTED FABRICS

By ZELINA COMEGYS BRUNSCHWIG

FEW PEOPLE, outside the circles professionally interested, realize the important position that America is taking in the field of decorative textiles. By this term is meant the materials used for household decoration that give us pleasure by their color and design and cheer us with their durable qualities and satisfying textures. The purpose of this article is to explain a few of the technical processes involved and to familiarize the reader with the present development in this textile industry.

The two factors that contributed the most to our development as the leading nation in this textile world were the economic depression of 1929 and the recent world war. The depression, by its drastic effect on individual incomes, created a demand for inexpensive fabrics; the war, with its aftermath in Europe of unrest and general disorganization, made necessary some other kind of material to replace the fine fabrics formerly imported from Europe. This was a condition that affected both woven and printed textiles.

Before the depression fine decorators on both sides of the Atlantic were thoroughly imbued with the tradition of elegance and formality. For the houses of discriminating clients damasks, brocades, velvets and chintzes of fine and classical design were the textiles used without question for purposes of decoration. Even decorators of necessity more modestly inclined used copies and adaptations of these fine fabrics. The world was still clinging to the age of tradition.

With the depression a general drop in income resulted correspondingly in a reduction in the funds to be spent on high priced and luxurious textiles. The situation was met, both here and abroad, by the production of inexpensive cotton weaves ingeniously woven from yarns hitherto discarded, to give an extraordinary number of new and delightful textures. Dyed the desired color, these "textured" cottons provided suitable substitutes for the damasks and velvets no longer within reach. As it

happened, a fashion was establishing itself at this time for "off-white" decoration, for which, fortunately, these inexpensive cottons were suitable. As a result they had a tremendous vogue, in fact they developed into a veritable style. Even when the demand for fine materials was renewed, this trend toward simplicity continued, bringing with it an entirely new approach to the manner of decorative textiles. Thus, a textile renaissance was set in motion for it must be borne in mind that the same situation prevailed in both Europe and America.

Far ahead of us in their acceptance and appreciation of the forms of modern art, the French, in relation to textile styles, naturally were in the vanguard. They embraced the new synthetic fibers as they appeared and with their well known ingenuity and taste, created fascinating textures and weaves which were soon to influence textile people in this country and gradually to become absorbed into our own textile pattern. Yarns were twisted and crinkled and looped; cotton and rayon, cotton and silk were combined, thus changing the smooth surface of the fabric and producing textures that were not only a delight to see, but a pleasure to feel. One can scarcely imagine the difference a change of texture can give to even a damask.

Printed fabrics, in company with weaves, responded to this new spirit. Their whole character was simplified by the French through new and fresh color combinations, the introduction of amusing motives and a freer style of design resulting from the developments of screen printing whose technique made possible the bold, large-scaled pattern which had been impracticable for the wood block printer. In fact, in the same way that France had held the lead in fashions, Europe, as represented by France, England, Italy, Switzerland and the Scandinavian countries, now was the source and inspiration of the greater part of our decorative textiles.

American producers, during this decade between the two periods, had not been idle. Throughout this time they had been endeavoring to manufacture fabrics similar to those from Europe which were so much in favor. But they had met with little recognition. Had the demand existed in this country for fine domestic textiles of the type being created abroad, America could have produced them. But decorator and client alike were so convinced of the superiority of foreign materials that a domestic piece, appealing as it might be in color and design, would be abandoned in favor of something imported from abroad inferior though it might be in style. This snobbish attitude resulted in a vicious circle.



SPRING GARDEN

WHITE, GREEN AND CORAL ON CHARCOAL GROUND. GLAZED PERCALE.
COURTESY OF BRUNSWIG & FILS.



PEONIES AND ROSES

GREEN, CHARTREUSE, HYACINTH ON WHITE GROUND. GLAZED COTTON.
COURTESY OF LEHMAN-CONNER COMPANY.

The fastidious customer would accept only imported stuffs with the consequence that the local producer made little effort to manufacture textiles for a market that had proved itself so indifferent.

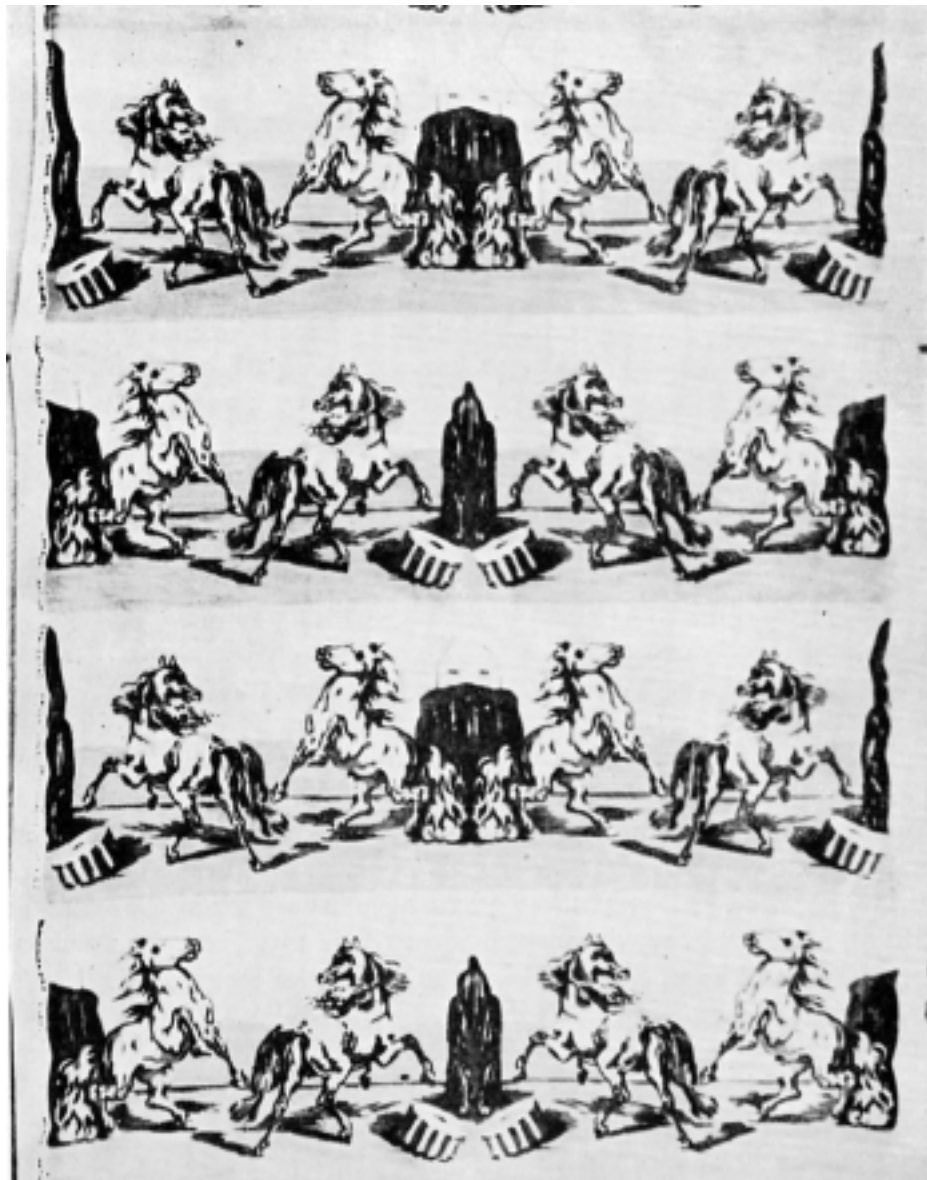
There were a few firms, however, shortly before the war, that were beginning to realize the practical value of manufacturing in America. European labor troubles were slowing down production, the time element was becoming important and there would be the ease, in thus changing the locale, of working directly with the factory. All these were considerations that appealed to the practical nature of the American.

When importers finally turned their attention to American manufacturers they succeeded in directing them along the paths trodden by their European competitors and, as time went on, began to present quietly these domestic textiles along with those that were imported. As a policy this was extremely fortunate for these firms, for with the beginning of the war European importations stopped entirely and these former importers would have been obliged to produce in America or perish.

Although the change from foreign importation to American production was a long and difficult task, it was a very exciting and satisfactory one. It awakened and developed new creative abilities. The importers stimulated the printers and weavers, and they, in their turn, cheered by the recognition that they finally had achieved, bent every effort to improve and develop their techniques, finishes and other features of their craft. Producers, for their part, realized that if they could measure up to European standards, this new business which was making its way so vigorously, would continue after the war. Time has proved the soundness of their judgment. Already three years have passed since the close of hostilities and Europe, due to scarcity of basic materials, dyes and increased costs of production, still is in no position to recapture its former predominant position in the textile industry.

In analyzing the progress made in American textiles, to the writer the most exciting advance has been that of printed fabrics. In Europe the wood-block was the method principally employed.¹ This operation, too costly and cumbersome for our larger production, required skilled workers trained in this tradition. Because it presented fewer difficulties, screen-printing—like wood-blocking a hand process—was developed for both cloth and paper work and has had amazing success. As

¹ A wooden block on which the design is cut in high relief. Coated with pigment, a stroke of the worker's mallet drives the color into the material. (Ed.)



ANCIENT HORSES FRIGHTENED BY THE VOICE OF THE ORACLE
FROM A CONTEMPORARY PAINTING BY GIORGIO DE CHIRICO.
BROWN AND BLACK ON SOFT BLUE, GRAY-PINK AND RESEDA GREEN GROUND.
COTTON TWILL. COURTESY OF SCALAMANDRÉ MUSEUM OF TEXTILES.

a result, most of the fabrics printed in America are screen-printed. This process, simple in itself, is often used by amateurs and designers to make simple patterns for it really is an extension of the stencil process. But complicated designs, using eight, twelve, fifteen or more colors, present problems that can be handled only by skilled printers and technicians.

The block-print method is so well known that it is not necessary to review it in detail, but screen-printing is fairly recent and a simple explanation of the process may be helpful. Both block- and screen-printing, as had been said, are hand operations. The screen is made of a special type of silk, or substitute material, framed in heavy wood. Its size is determined by the size of the repeat in the design to be reproduced. Printed patterns in America are made on cloth thirty-six or fifty inches in width, hence a screen for printing a thirty-six inch cloth would be thirty-six inches wide by the length of the repeat in the pattern. For a fifty inch design the screen would be made full width and as high as the repeat.

That section of the design to be printed in one color is traced on the silk with a pen. The fine lines, however, formerly achieved by the use of the engraved copper plate, are now produced by the photographic method which transfers them, in faithful representation, directly onto the screen. Then the remainder of the screen is blocked or painted out. For each color a separate screen is used and the process is repeated. Sometimes fifteen or twenty screens are needed for one design. Over-prints, the printing of one color on top of another, cut down the number of screens and give greater depth to the pattern as the dyes used in this kind of printing are partially transparent.

Properly bleached and prepared cloth on which the design is to be printed is placed on a table which is usually fifty yards long, and is either pinned at the sides or pasted over padding to keep it in place. The table has a guide rail to which adjustable clamps are attached. The screen is then placed on the table and each repeat is marked by gages and clamps on the entire length of the table to ensure that each screen will be placed in its proper position for the printing.

Starting at one end of the table, the screen is placed in its first position and the color, whether pigment or dye, is poured on the screen and forced back and forth by an oblong instrument, known as a squeegee, so that it penetrates the fabric uniformly. The screen is then lifted and placed in its next position. This operation is continued the entire length of the table and is repeated for each color used until the pattern is complete. The fabric is then unfastened from the table and lifted into the air to dry.



KENTUCKY CARDINAL
GREEN, CHARTREUSE AND RED ON NATURAL GROUND.
COTTON SATINE.
COURTESY OF BRUNSWIG & FILS.



PANAMA

BY DAN COOPER. SHADES OF BLUE AND GREEN ON WHITE GROUND.

RAYON AND COTTON ANTIQUE SATIN.

COURTESY OF DAN COOPER.

Many other processes are employed after this initial step. Colors must be set either by steam, or by other means, depending on the nature of the dyes used. Further operations are required to finish the cloth of which one is glazing. A large screen-printing plant uses an enormous amount of costly and complicated machinery in the preparing and finishing processes; however, the printing itself is still a hand operation.

Quality of printing, depth of color and delicacy of design can be reproduced quite as well by screen-printing as with blocks, if the screens are well cut and the printer is a person of high technical skill and knowledge. It is as impossible for anyone with a sudden impulse to become a screen-printer to set up a screen print shop and expect to equal or surpass block-printing without such skill as it would be for a youngster in medical school to perform an operation with the perfected technique of an experienced surgeon.

The main problem today is the changing over from imported to domestic dyes, and because of this a great deal of experimentation has been necessary. Large plants employ staffs of chemists and technicians and therefore are in a better position than the small printer to achieve accuracy of color. The tendency is toward what are known as "vat dyes," colors, like the Jouy "*bon teint*", the least likely to fade when exposed to light. The whole vat process, however, is very intricate and color matching has not yet been perfected. Research is being carried on by large chemical companies which are experimenting continuously with the hope of developing in this country fixed colors at reasonable prices. Swiss colors are among the finest produced, but it is impossible to import sufficient quantities as protective tariffs make the price prohibitive.

Roller-printing, another of the principal methods in use today, is not new, but it has been perfected. This is a process by which color is transferred continuously onto a cloth by means of engraved metal rollers.² The size of the repeat of the design is limited by the circumference of the roller which is usually from fifteen to eighteen inches. The number of colors also is limited. While the machinery required is very expensive, actual printing costs are much lower than in screen printing as the machines are so constructed that they must print several thousand yards per color combination in one continuous operation. Inexpensive prints found in department stores are printed by this machine method which is the only way in which low-cost production and large volume can be obtained.

² Roller-printing was introduced into the Oberkampf manufactory at Jouy in the last years of the eighteenth century. (Ed.)

The screen process, on the other hand, sets no limitation on minimum yardage and since it is more flexible, experiments can be made and new designs developed without commitment for the large volume of cloth required in roller-printing.

In the last ten years our conceptions of decoration have moved a long way from the European idea. At the present time American made prints and weaves are accepted by American purchasers without question. The point is rarely raised as to whether or not they are imported fabrics. They are sought after because of their merits. In color and style they express our way of living and they meet our need for fresh, strong color and durability.

The photographs that accompany this article are examples of some of the screen printed fabrics shown at the exhibition at the Slater Memorial Museum in Norwich, Connecticut, in the Spring of 1948. They illustrate new trends in decoration and are interesting not only from the point of view of their design and color, but also for the fact that they are printed on types of cloth extraordinarily varied in their composition that give added interest and new dimensional qualities to the design.



ENDPIECE

SILK SCREEN SHOWING GROUND BLOCKED OUT
COURTESY OF F. SCHUMACHER & COMPANY