

SERIGRAPHY AS A DIRECT METHOD OF ARTISTIC EXPRESSION

by

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Full realization of the need to express myself in art was very slow in coming to me. My early life was quite barren of contact with works of art or exposure to people who had more than a passing interest in art. There were no art museums, no art galleries, or art exhibitions of any kind. There had been no recognition of art in the school I attended, from the lower grades on through high school, other than instruction by a "music and art" teacher while I was in the third grade.

Nevertheless, in spite of the scarcity of extrinsic artistic influence, any of the art works which I did see were of paramount interest to me. While I had been making pencil drawings all my life, I had never used color to any extent, and each painting I saw made me envious of the artist. There were no art schools within several hundred miles, and no other way of attaining the necessary training, that I had always inwardly desired, presented itself. And furthermore, I had been tied down at a very early age by economic necessity, and art had to take a secondary place, if any.

The full impact of the importance of that intangible essence that is art did not strike me until I was thirty-seven years old. Before that time I had not seen any of the works of the masters other than reproductions in text books and magazines; in fact, I had seen nothing of any good artist's work. In 1944 I was in Rome with the armed forces, and while I was there I saw the "Pieta" of Michelangelo. For the first time in my life I was given visual evidence of the

beauty, power, and the magnificence, that a great work of art can be. The incident had a tremendous personal effect. From that moment art became something very different for me. It became something greater, something of more importance than I had had any previous conception. I do not mean to intimate that at that moment I vowed to begin to study art. The effect was to the contrary. It almost frightened me away completely from ever thinking of attempting to become an artist. Previously my thought concerning the required elements that produced good art were simply a fair degree of talent for drawing, in the manner with which I was familiar, plus trained technical skill. The emotional and psychological reaction to the "Pieta" and the Sistine Chapel paintings left me all at sea concerning the world of art.

In 1949, however, when the opportunity to enroll in the College of Fine Arts at the University of Arizona offered itself, I took advantage of it immediately. I feel that it was one of the most important steps I have ever taken. As an art major I immediately found myself in surroundings to which I was completely unaccustomed, but one in which I felt at home. I gradually pieced together the great gap between my earlier thought of art as being limited to skillful reproduction of visual reality, and the revelation that art, in true sense, creates a new response in the observer by a balanced coordination of elements depicting the artist's personal interpretation of universal concepts. After almost forty years of childlike ignorance, it was difficult at first to realize that training in art is only meant to

help you learn a language in which you may express thought or emotion, and not simply to train you to be an expert craftsman.

When I was faced with having to choose a problem in some field of art as a thesis toward fulfilling requirements for a master's degree, after much deliberation I chose serigraphy. Although I had no knowledge of the technical aspects of screen process printing, I felt that, as a comparatively new medium in fine arts, it contained a wide range of little explored possibilities. I realized that it would necessitate the acquiring of a degree of mastery of the technical means before being able to explore the potentialities of the medium as a fine art, but I was sure that this would be offset by not being hampered with too many preconceived ideas concerning its application. As a result, I limited my study of technique to merely the qualities of the tools ordinarily used with that method of printing.

Assuming that the great many years in which screen process printing had been in use had produced efficient tools with which to work, I decided that to experiment with such things as pigment mixtures and the like would unnecessarily complicate the problem, and to a great degree, interfere with the original objective. Silk screens, paints, solvents, etc., were studied in the preliminary approach with the view to obtaining understanding of their relationships to each other; how each acted or reacted, in conjunction with the other. Detailed handling in order to obtain a certain specific result was avoided as much as possible, except where it might be necessary in measuring, to a greater extent, the qualities of the tools.

The screen process type of printing has a background of many

hundred years usage. Basically it is a multistencil method that permits the printing of hundreds, even thousands, of copies of a great variety of graphic works from simple hand bills and posters to reproductions of works of fine art. The earliest known use of screen stencil printing occurred early in the history of the Orientals. Originally it was used in the application of designs to pottery, fans, and like craft objects, with lacquer as the principle printing medium. For some reason the method did not become popular as a means of printing until some forty years ago, when new discoveries facilitating its use gave birth to what is, at this date, a considerably large industry. Widespread commercial usage as a method of reproduction has placed the screen process among the leading printing crafts.

The first consideration of the screen stencil as a possible means of the production of original works of fine art appeared, as nearly as I have been able to discover, during the year 1939, when the National Serigraph Society was formed. The name "serigraph", which is applied to the silk screen process when it is used as a fine arts medium, was derived from the Latin "seri" meaning silk, and the Greek "graph" meaning "to write" (or drawing with a line) literally translated as meaning to draw on the silk which is used in connection with the stenciling operation.

The operation of the screen process of printing is, speaking generally, quite simple, but nonetheless very exacting; and it is time-consuming, particularly for a beginner. The process consists of a stencil being attached or painted on a piece of silk (or some other

like material) which has been stretched on a frame, the silk screen placed over the surface of the paper or object on which the stencil is to be imprinted, and paint or ink brushed over the silk. For the production of many-colored prints, a new stencil is created for the application of each color.

Great care must be taken in the construction of the frame on which the silk screen is to be attached. Since the process necessitates the precise integration of a succession of stencil printings on exactly the same surface areas of a great number of sheets of paper, a carelessly or clumsily made frame would be useless. The shape of the frame is rectangular, and varies in size depending on the sizes of the prints to be made. A convenient size which would accommodate the majority of prints the average artist would be making is 30" long by 20" wide.

The frame must be square and level, and not warped in any way, to insure that it is flush at all points when it comes in contact with the surface of the flat base to which it is attached by hinges.

After the frame is made, and before attaching it to the base, the silk is stretched and fastened to the sides of the frame which will be the bottom when it is completed. The choice of silk to be used is determined by its strength and by the number of meshes per lineal inch. A smooth, tightly-stretched screen is very necessary in order to obtain an even contact with the paper.

With the screen side down, the frame is attached to a base by removable pin hinges, allowing the screen to be raised or lowered. The base may be simply a piece of heavy plywood, with dimensions a

few inches greater than that of the frame, or it may be a smooth level table top. It is best to allow the free end of the screen to extend a little beyond the edge of the base to permit it to be raised more easily. Special care must be taken while installing the hinges to insure having no play between the frame and the base.

The choice of the types of stencils to be utilized in this thesis problem was first considered from the standpoint of the amount of freedom of expression which could be derived from their use. Photographic stencils were immediately eliminated as being much too mechanical. Experimentation with knife-cut stencils had been planned originally as a part of the thesis work, but after consideration they were also discarded as being an unnecessary step, and inclined to limit the freeness that was desired. It is true that the knife-cut stencil has been freely used by artists in producing serigraphs, but the conclusion that I have reached is that this type of stencil places the print on the same plane as a reproduction of a work of fine art, which has already been executed in another medium. I believe that a true serigraph should be created directly on the screen, not created and then transferred to the screen by the use of devices, whether mechanical or otherwise. The only types of stencils that I found which seemed to fulfill the requirements of freedom, were the block-out stencil, and the glue and tusche stencil. Either of the two types may be created by simply brushing a liquid substance directly on the screen. With the block-out, the area in which the color to be run is not desired is simply brushed out with the liquid. The glue and tusche is similar, with the exception that the area to be printed is first brushed on with the

tusche, the whole area covered with glue, and the tusche washed out.

The decision arrived at concerning the choice of stencils was made after much thought and long deliberation. The validity of the serigraph seemed to me to hinge on whether or not the work was simply a process of reproduction. It may appear that the choice of a brush applied stencil over a knife cut stencil, both of which are applied directly to the screen, was an arbitrary one. However, in order to make a knife cut stencil the area must be sketched or painted on another surface and then transferred by means of the stencil to the silk screen. This transference would immediately become a reproduction. If a sharp edge or a fine line is desired, it can be obtained by using a finely meshed screen and a lithographic pencil, which is of the same substance as the tusche.

I am also of the opinion that the mesh of the screen is as much an integral part of the character of a serigraph as the surface of the stone used in lithography is an integral part of the character of a lithograph. The knife cut stencil is attached to the under side of the silk, and thereby eliminates to a great extent the effect of the mesh of the silk on an attempt to produce sharpness of outline. This type of stencil came into being as a result of the desire to approximate the sharpness of intaglio printing and avoid the blurriness that is characteristic of printing through silk. Such a stencil works very well in fulfilling the demands of commercial printing, but in fine art I believe this is to be a violation of the character of the medium.

A stencil prepared through the use of tusche and glue is made

possible by the fact that the solvent which is used to remove tusche from the silk screen has no effect on the film of glue where the glue has adhered to the surface of the silk. A good solvent for tusche is paint thinner and the solvent for glue is water. Therefore, when tusche has been applied first to any area of the screen, and a subsequent film of glue is placed over a greater area, including the area where the tusche was applied, the glue adheres to the silk only where it comes in direct contact with it. If the tusche solvent is then applied to the underneath side of the screen, the tusche dissolves and carries away with it only the glue that had covered the tusche area. The mesh of the screen is then free to allow the paint to pass through these areas only. Since tusche is a thin liquid that can be applied with a fine or a broad brush, the freedom permitted by this type of stencil is quickly evident. Anything from a rather fine line to broad areas may be drawn or painted on the surface of the silk as though working with the actual color directly on the surface of the paper on which the final print is made. When paint is forced through the stencil, it prints on the same areas, with the same freedom as though it had been directly applied by a brush, and any number of copies may be made containing the same original feeling of freeness that was present in the application of the tusche. Since the screen process paint or ink may be washed from the stencil without its affecting it in any way, if that particular stencil is no longer needed for any reason, the glue may then be washed out of the silk with water, and a new

stencil prepared in the same manner. If an area to be inked is broad enough, and free enough, the blocked-out stencil may be used by simply spreading the glue over the area in which the color is not desired.

Two extremely important requirements for obtaining a successful print are that the stenciling area to be used on the silk be well marked, in order that each successive stencil can be prepared in the right place exactly, and that the paper on which the prints are to be made is located in exactly the same spot for each run through of color. The simplest way of bounding the area on the silk screen is to mask off all the rest of the silk except in that area. The paper can be aligned by placing guides on the base.

The masking material to be used with tusche and glue stencils must have two necessary qualities. It must be of a type that can be removed from the silk when the print is completed, and it must be impervious to the solvents used to remove either the tusche or glue. If either solvent removed the mask, or weakened it, the masking would be useless. Lacquer works well in this case. It is unaffected by either water or paint thinner and can be removed by washing out with lacquer thinner.

Guides used for the exact placing of the paper under the stencil, which is called "registration," can be made quite simply, although many elaborate systems have been offered. A guide can be made by cutting a short piece of gummed tape, and with a knife cut a small pointed tongue in the center. With the gummed side of the piece down, fold the tongue back, and the crease formed will hold the edge of the paper

when the guide is pasted to the base. To hold the folded tongue in the creased position, paste a slender strip of the tape over the tongue from its point back over the part of the strip in which it was cut. For accurate registration, at least three of these guides are necessary. Two guides placed to align one side of the paper, and the third for an adjacent side are sufficient. They can be removed at any time, and new guides made easily and quickly for a different registration.

The term "make-ready" is a name given to the preparation for making a print. This can even include the making of a screen, if a new or different screen is necessary. With the screen constructed, the juncture of the silk with the wooden frame is lacquered, and the lacquer reinforced on both sides of the screen by strips of gummed tape. This operation is a precaution against ink getting between the silk and the frame and drying there, injuring the silk and shortening its period of usefulness. A well-treated silk screen can last indefinitely. The screen is then masked with lacquer, except for the area to be used for the print stencils, and the first stencil prepared. Should it prove that it could be more easily accomplished if the frame were not fastened to the base, simply pull out the hinge pins and remove the screen. The screen is usually separated from the base to facilitate cleaning, also. A short piece of wood attached loosely by a screw to the side of the frame, close to the frame's free end, acts as an efficient prop for holding the screen up and away from the base, either for cleaning or for inserting fresh stock.

The easiest way to align the position of the paper used for

printing and the screen stencil, is to draw an outline on a piece of paper, newsprint will do, the exact size and shape of the print that has been planned. Place this piece of paper on the base underneath the screen in the place felt to be the best working area, fit the guides to the sides of the paper and paste them to the base. Lower the screen and the outline can easily be seen through the silk, indicating the area to be kept clear of the masking lacquer. The edges of the stencil area can be delineated quite sharply by placing masking tape along each edge as the lacquer is applied, and removing it immediately afterward. The lacquer should be squeegeed on lightly with a small piece of cardboard. It is better for the silk if the lacquer forms a film on the surface and does not go through the mesh and solidify. When the screen is masked, the area on the screen that is free and open will coincide exactly with the paper registered underneath. Each piece of stock placed in the guides will receive the stenciled ink in precisely the same place. The area left open may be cleaned of tusche, glue, or ink without injuring the size or outline in any way.

If it is so desired, a rough sketch of the proposed print may be made, such as a cartoon is made for an oil painting or a watercolor, for the reference by the artist. This sketch may be registered beneath the screen or simply placed in a convenient spot for occasional guidance. If the sketch is beneath the screen, care must be taken that the screen does not come in direct contact with the paper, for the tusche frequently passes through the screen. A ruler placed underneath the free end of the frame will attain this separation, and this has been the commonly

used method. However, I have discovered that by placing a sheet of cellophane on top of the sketch, if the tusche does penetrate the screen, it can be easily wiped clear with paint thinner. I used this method to great advantage in developing my first print, placing one of the prints protected by cellophane beneath the screen each time in preparing a stencil for the next color. In this manner the development of the print can be closely followed, and it aids in determining the exact area for the next color stencil, as well. This particular method is, perhaps, most applicable when no definite end result has been decided on, and each color area to be run has its hue, value, size, and position more or less dictated by the colors previously applied.

To prepare a tusche and glue stencil, first paint on the tusche in the in the area or areas in which the first color had been planned to be placed. It is usually best to run the colors through in a sequence of light to dark. If the stencil of a light color should overrun that of a dark color, and it has been printed after the dark, the effect of the color in the overlapped area is quite apt to be lost as a result of the dark showing through. The tusche is most efficient if put on in two light layers, but the resultant film should be quite black. The screen should be checked constantly by holding it up to the light to make sure the mesh is covered and no pinholes are left open. This operation should become a habit whether the application be of masking lacquer, tusche, glue, or any other screen filler.

The glue to be used can be LePage's Liquid Glue mixed with equal parts of water. The glue should be squeegeed on with a piece of cardboard in the same manner as the lacquer masking, with even greater im-

portance. If the glue should pass through the mesh of the screen and form a film on the under side of the tusche, the tusche in that area will not be dissolved by the thinner, and will remain on the stencil until after the glue has been removed. A good stencil can be spoiled easily in this manner. Squeegeeing with cardboard, or carding as it is called, is a simple operation to all appearances, but it requires close attention until skill in its operation has been acquired. Heavy pressure on the cardboard will squeeze the liquid through the silk mesh quite easily. Use only a little glue at a time, and put it on thinly.

Paints have been developed particularly for use with the screen process, and it is best to use them. The ink should be of the consistency of heavy cream for the best results. The ink should be cleaned from the screen as quickly as possible after a color run has been completed, and should never be allowed to dry in the mesh.

Cleaning screens thoroughly cannot be stressed too much. Each time they are cleaned they should be held up to the light and checked intently. The sheer look of a well-cleaned screen cannot be mistaken once it has been recognized. Even if it should appear only slightly cloudy, there is something foreign in the mesh and it should be cleaned again. If this is not done, the next stencil will not print cleanly. For this reason I believe that each stencil should be put through a trial run before beginning to run the prints through. Newsprint should be kept on hand for this purpose.

It must always be kept in mind that the silk screen does not lend itself easily or naturally to fine detail or sharp line. A serigraph could very likely be made to resemble, by manipulation, an oil

painting, a watercolor, or any of a variety of other mediums. But a serigraph is not one of these, and there is no particular object in trying to make it appear so. The blending of colors and values, when attained, must be approached from entirely different directions than such blendings in oils or watercolors. Light and dark must be thought of in a different manner. In fact all of the compositional elements must be considered from the point of view of serigraphy, and not from that of any other medium, except for the reasons of comparison.

The first thing that should be recognized in the approach to serigraphy is the distinct difference in the manner of application of paint, or ink as it is called in this case, from almost all of the commonly used mediums used in fine arts. It is not layed on with a brush, or a palette knife, or any similar tool. It is layed down in flat color areas of a consistent color strength. There are deliberate exceptions to this, of course, as well as a few accidental ones, but I am speaking from a general view. This is a feature of the printing mediums such as lithography, color etching, block-prints, etc., and can only be attained in the brush applied mediums through painstaking care. Therefore, from the outset, a serigraph must be considered in terms of flat color areas. And these areas should be rather large, generally speaking, or the result may have a polka-dot effect. Even where blendings are accomplished by transparent colors, the result is still a flat area. This feature inclines toward abstraction and simplicity of design. The relationship between areas is other than through subtle transitional effects; the emphasis is rather on freshness and

color contrast and relationships.

The values in a serigraph must be contemplated in much the same way. Chiaroscuro is practically impossible to attain with any amount of success. As the color appears in flat areas, so must the values, and therefore naturalistic shading from light to dark could not very easily be done. In fact, the light and dark of the serigraph is more comparable to Oriental notation than to Western chiaroscuro. When values are used in an attempt to show form, it must be done in a broad and simple manner. Again the medium leans toward abstraction. However, simply because the medium is characteristically flat in aspect, it does not necessarily follow that its principle and most effective use be limited to patterned, decorative work. Any medium can easily be used decoratively, so the feature is hardly a restrictive one.

The line produced by the silk screen is essentially typical. The finest of its lines is rough in character. This roughness is certainly not undesirable; it has definite and unique charm. The lines, both fine and broad, impart a vague feeling of indefiniteness, which, in conjunction with the fairly sharply defined flat color areas, results in a very pleasant contrast. This can be compared, rather interestingly, to the subtly blended color areas and the relatively clear definition of line usually found in works rendered in other mediums. The quality of the serigraphic line, in a like manner as the color and value, would conform favorably to abstract treatment.

Another interesting difference in innate character traits between

the serigraph and other mediums, with the possible exception of the print types, is the manner in which the native textural quality of the material affects the application of pigments. The pigment and its vehicle in each would naturally be different from all the rest. The texture to which I had reference is the tooth of an oils canvas or watercolor paper, the smoothness of a tempera gesso panel, etc. In each case the surface which receives the paint is an integral part of the visual aspect of the whole. In short, the surface imparts its own attributes in a visually effective manner. Certain surfaces are continually chosen because of the particular quality. For the serigraph, the best results in printing surface, with a few possible exceptions, is a moderately soft and smooth paper which does little other than receive the image which is imprinted upon it. The equivalent textural quality that is imparted by the canvas, the watercolor paper, or the gesso panel, is conferred by the silk screen through which the pigment passes before reaching the receiving surface. This feature, perhaps, would be of little concern to the artist from a purely aesthetic standpoint, but it is nevertheless interesting technically, and it adds its own confirmation of the intrinsic individuality of serigraphy as a fine arts medium.

The various characteristics of the serigraph which are noted in this essay are indicated in the work done in serigraphy as a thesis for the degree of Master of Arts in Art. Many of the effects appearing in the work were arrived at by accident as occurs frequently in all research problems. However, an abstract quality of the screen process medium



came to my attention almost at the beginning of my studies, and even before any actual work had been started, I had considered many possible ways of utilizing this quality in discovering a freer means of expression. The indefinitely shaped but still sharply defined areas of color contrast and unity were exploited deliberately. The line quality had been expected to be sharper, but the resulting half-definite line was found to be infinitely better as far as working with the color areas was concerned. The vague, unreal modeling in the lighter areas was also an accident. The prints were made while the paper was resting on a piece of crinkled cellophane, which I had been using to protect the prints during the developmental operation, and the resulting variation of pressure by the squeegee caused the modeling.

The composition in my first serigraph was not planned except in a very general way, and it actually developed as the work progressed.

The conclusion that I have arrived at is that the serigraph is an exceptionally well-adapted medium for abstraction, and that attempting realism with it is practically a violation of its character. I have concluded that greater freedom of expression is to be attained by full recognition and use of its intrinsic abstract nature.

I have also, as a result of the research and study, arrived at the conclusion that fine artists now using the serigraph as a medium are still being held down to a great extent by the historic past of the screen process as a method of reproduction, particularly as it has been used as a method of reproduction of works of art. The examples which I have seen of their work, which unfortunately have been only

reproductions of the originals, indicate that while they may be conscientiously avoiding making a serigraph appear as an oil painting or a watercolor, and while they are proclaiming that the serigraph must be considered in the light of its own characteristics, they are still approaching the medium with the conventional oil or watercolor standards in respect to compositional qualities. A description of the technical methods used by these artists in producing their work also indicated that they are still clinging to the practises of the purely reproductional field of endeavor in the sphere of screen process printing. They are still attempting to use line, color, value and texture as they have used them in the past with other mediums. They are still creating original works of art in one medium and transferring them with the aid of mechanical means to serigraphic prints.

Perhaps with the rather meager evidence with which I must go by, I have drawn a conclusion too quickly. It is to be hoped that there are some artists producing serigraphs who have recognized the necessity of turning to the medium with full recognition of its unique possibilities; who will more than just recognize its essentially abstract qualities, and will utilize its inimitable combination of flat color areas, notan-like values, and hazily defined line in a new presentation of abstraction which is an innate characteristic of art.

The technical information concerning screen process printing used in the preliminary study for the thesis was obtained from Screen Process Printing, by Albert Kosloff; a pamphlet called Silk Screen Printing, by Lawrence Kupferman of the Massachusetts School of Art;

and CSSP correspondence course in silk screen printing. Information on serigraphy and the methods of modern serigraphers was obtained from Silk Screen Color Printing, by Harry Sternberg.

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