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# PROJECTION CONTROL



by

WILLIAM MORTENSEN

CAMERA CRAFT PUBLISHING COMPANY  
703 MARKET STREET ♦ SAN FRANCISCO, CALIF.





MYRDITH



19.31

*William Mortensen*

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# Projection Control

**C**ONTROL in projection gives to pictorial photography the same facility for expressing the artist's individuality and personal interpretation that the free-hand draughtsman has in working with an etching needle or a piece of charcoal. With the number of methods now available for alteration of the original image, the photographer's scope for personal expression is as great as that of any other graphic artist. The image as literally recorded on the negative is not a picture, scarcely even the beginning of a picture, but rather the potentiality of many different pictures according to the artist's comment on it in the process of printing and the attendant manipulations. Getting the image onto the negative is only *taking* the picture: in printing, one comes to *making* the picture.

Despite the tremendous possibilities of projection control, it is little practiced, much less understood, by the average pictorialist today. It is airily dismissed by the ignorant as "trick photography", and regarded as heretical and blasphemous by the f.64 group. Such neglect is to be deplored, for projection control offers the photographer with imagination a solution of his discontent with much present-day picture-taking and its literal, snap-shot ideals. In his experience as a teacher the author has found that instruction in the technique and methods of projection control affords a powerful stimulus to students, leading them from the realism of accurate recording into the realm of the creative imagination.

Because of the relatively small amount of work being done in this field, it is still rich in undiscovered possibilities of method and effect. The author hopes that this discussion of it and a few detailed descriptions of procedure will lead others, not only to deeper appreciation of this type of technique, but also to effort, by original experiment, to improve and extend its capacities.

## Typical Effects

Before examining a few instances of typical procedure, let us summarize the sort of effects that may be accomplished by intelligent use of projection control.

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The simplest of these and most generally appreciated is that involved in the process of "framing". Someone has defined a picture as an idea surrounded by a frame. Compositionally speaking, it is an arrangement of lines and masses and a balance of lights and darks within a frame. But in dealing with the fleeting aspects of things the photographer seldom has opportunity to give careful thought to such arrangement and balance. This opportunity comes in projecting the negative for enlargement. Sometimes the desired picture will be found in a "choke shot" or a small portion of the negative. In portraiture, a slight tilting of a head will often give it an arresting dramatic quality that was originally lacking.

Scornful academicians, deriding the camera, are prone to point with pride to the capacity for "losing and finding" the outline as an exclusive possession of the older graphic arts. The camera with its strictly mechanical limitations (they argue) must necessarily give an equal emphasis to all portions of the outline of all images photographed. This of course is true, insofar as "picture-taking" is concerned. If a soft-focus lens is used, all the edges will be equally and disagreeably fuzzy and soft, while a lens with more definition will yield an edge equally and monotonously sharp. But by *local printing* (which has been aptly described as "painting with light") the pictorial photographer gains the same freedom in respect to dealing with outlines as that belonging to other practitioners of the graphic arts. By its use a harsh, dead outline is transformed into a fluid sequence of accents, vital and interesting, with a distinct suggestion of receding planes that lead the eye into the picture.

Local printing lends itself also to emphasis of significant and salient details. Certain essential or climactic points, such as the eyes in a portrait, often demand darkening in tone. By deftly placed accents the principal lines in a composition may be effectively stressed.

Conversely, local printing aids in the elimination or subordination of detail that is unpleasant, superfluous or incongruous. Objectionable strands of hair, unfortunate shadows under the chin or on backgrounds, confused masses of extraneous detail in backgrounds or in clothing, accidentally included objects that are meaningless or in direct conflict with the essential idea of the picture—these and similar problems may often be solved by controlled projection.

It is an axiom of picture construction that the point of greatest interest and the point of strongest contrast should coincide. Negatives often fail to comply with this rule, but by local printing the placing of contrast may be largely regulated.

By subtle alteration or distortion of shapes, stressing lines or forms that are already latent in the negative, dramatic force is gained. At the same time over-literal or common-place connotations are avoided.

Montage is, strictly speaking, a development of the motion picture; but its essential principle—which is the enhancing of emotion or drama





*Nude Study*

*William Mortensen*

Example of Projection Printing from a  $3\frac{1}{4} \times 4\frac{1}{4}$ ' negative.



Figure 1.  
Exposed for the  
light area;  
balanced lighting.

through effective kinship or contrast of forms or ideas—lends itself equally well to pictorial photography. Picture elements, related in idea or pattern, but impossible to obtain on one negative, may be brought together by combination printing. By this means, also, backgrounds may be added to figures, miniature objects may be made to appear huge, and various strange effects achieved, useful to the pictorialist with imagination.

### Negative Requirements

For use in projection control the negative must meet certain strict requirements. As regards size: the negative should be a small one, not larger than 5x7 inches. The author has found  $3\frac{1}{4}''\times 4\frac{1}{4}''$  the most convenient size. Miniature negatives lend themselves admirably to the various processes of projection control, although demanding greater skill and more critical care in manipulation. If intended for use in combination printing the subject should have a white background so illuminated that it is higher in key than the subject. The principle point of interest should



Figure 2.  
Exposed for the  
shadows;  
balanced lighting.

be fairly well centered with ample surrounding space to allow for manipulation and adjustment.

Still more important than the above listed requirements is that relating to negative *quality*. The negative should be brilliant, and by conventional standards slightly thin, ranging from complete transparency in the deepest shadow through a long scale of half-tones to a dense black in the extreme high-lights. Such a negative when examined carefully by holding it in front of an illuminated sheet of white paper shows two main divisions of tonal quality:

1. A relatively dense area,
2. A translucent area.

The denser area (which represents of course the lighter portions of the print) is at no point completely opaque or black save at one or two small spots which correspond to the most intense high-lights of the original image. Throughout the translucent area (representing the darker passages of the print) there is a *suggestion* of drawing and a faint veiling of *tone* over it



Figure 3.  
Exposed for the  
light area;  
“modeling light”  
with reflector.

all, except in a few small accents (representing the “deepest darks”), which are clear and transparent as glass. Finally, there is, between these two dominating areas of tone, a considerable and clearly distinguishable range of half-tones. Such a negative, if held between a light globe and a white sheet of paper, will, even at the distance of six or eight inches, cast a clear image of itself.

Negatives of this peculiar type of brilliance are not to be obtained by conventional photographic practice. The author has evolved two rules which somewhat explain and summarize his procedure. The first rule is: (1) “The minimum of exposure with the maximum of development”. The second rule explains what is meant by the “minimum of exposure”: (2) “Expose for the light area and let the shadows take care of themselves”. These rules, it will be readily seen, are in direct contradiction to conventional photographic practice, which counsels exposing for detail in the shadows.

All theories of exposure represent an effort to fit the restricted range of half-tones of the negative to the range of tones afforded by the sub-

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Figure 4.  
Exposed for  
the shadows;  
“modeling light”  
with reflector.



ject. Since the negative range is nearly always much shorter than the object range, it is obvious that some sort of compromise must be made, as it is impossible with the average subject involving local colour to simultaneously record on the same negative the full range of half-tones in the light area and complete detail in the shadows. By basing exposure on the light area, the full range of half-tones in this part of the image is reproduced on the negative, with only the extreme high-lights attaining full blackness. Figure 1 is a straight print from a negative obtained under such conditions. This print immediately impresses one with its tangible, three dimensional quality. Note the nice distinction in local colour between the whites of the eyes and the light area of the flesh. Note also the range of delicate half-tones in the light area. The few high-lights are crisp and brilliant, and the shadows rich and illusive. The quality of the blacks is substantial and velvety.

The older compromise, that of exposing for the shadows, represents an effort to get onto the negative everything recordable in the subject. But note what happens when a negative is exposed for the shadow area:



Fig. 5. Printing frame tilted for elongation.

while you are waiting for the small amount of light from the shadows to record itself, things are going wrong in the light area. The extreme highlights build up to black first of all, and, because they cannot get blacker than their ultimate black, they remain there while all the adjacent half-tones catch up and merge themselves with the high-lights. A print from such a negative shows fine detail in the shadows, and a bleak light-area bereft of all detail or gradation. Figure 2 shows the result of exposing for the shadows: the lighting is identical with that of Figure 1. Comparing Figure 2 with Figure 1, it is immediately evident that the modeling of the face has been destroyed so that it looks flat and on one plane. The distinction of local color between the whites of the eyes and the flesh tones has been lost. The gradation of half-tones in the light area has been wiped out completely. There are no crisp high-lights, and no rich blacks. The shadows are filled with wiry, unpleasant detail. Compared with the rendition in Figure, 1, the hair in Figure 2 looks meager and mousy.

A comparison of these two prints should make it evident that, aside from photographic advantages, there are very definite pictorial and psychological justifications for exposing for the light area. It is to this part of the picture that the eye goes first in search of subjective or thematic



Fig. 6. Local Printing.

interest. Hence this part should reward the questing eye with fine detail, delicate gradation and subtle modeling—the qualities which constitute photography's unique contribution to pictorial art. In the shadows, on the other hand, illusion should prevail, and too much literal detail there is a distraction and an annoyance.

One caution needs to be observed: the lighting should be *well-rounded and balanced*. A contrasty lighting, or the typical studio "modeling light" with reflector, results, when one exposes for the light area, in complete loss of the shadow area. Consequently, the "minimum of exposure" is not adaptable to outdoor use except in the shade or under a cloudy sky. Figure 3 is a typical example of what happens when one attempts to combine the minimum of exposure with the "modeling light". The exposure in this case was the same as that used in Figure 1. Note that the shadow area is completely blacked out, although ample detail was evident to the eye at the time of taking the picture. Observe, however, that in the light half of the face, on which the exposure was based, there is just as fine gradation and modeling as in Figure 1.

In Figure 4 is demonstrated the conventional portrait procedure, which seeks to secure a three dimensional effect through use of a "model-



Fig. 7. Local Printing: Method of controlling size and shape of opening with left hand.



Fig. 8. Position of fist for "dodging in."

ing light" instead of through delicate gradation of half-tones. The lighting is the same as in Figure 3, with exposure based on the shadow area. Notice that the light area is blasted and burned out even as it was in Figure 2. Only in the shadow area does any modeling survive.

No effort has been made to exaggerate the differences between these four prints. They received identical treatment in the dark room. All four were printed for the same length of time on the same kind of paper, and were developed for the same period in the same developer.

The first rule calls for the "minimum of exposure *with* the maximum of development". The second half of the rule is just as important as the first and is inseparable from it. By "maximum of development" is meant *full* development. A negative that has been correctly exposed for the light area *cannot be over-developed*. Up to the point that fogging begins there is the possibility of the development of latent detail. Such development must take place in a solution so balanced in alkaline content as to permit prolongation of the development.

Photographers that expose for the shadows are prone to prematurely "jerk" their negatives from the developer in order to prevent the light area from blocking up completely. By so doing they cheat themselves of some of the detail in the very shadows that they exposed for. As to the light area, they get something that is printable, but starved for half-tones. When once the half-tones have merged themselves with the high-lights they are joined for good, and no amount of hocus-pocus with under-development or reducers can ever take them apart again.

## Mechanical Requisites

The author has found the horizontal type of projector with nine inch condensers and a 200 watt "photographic" bulb to be the most flexible



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sort of enlarging machine, lending itself readily to the various methods of control. A good lens (such as a Carl Zeiss, or a Goerz Dagor) is essential. An orange filter should be attached to the front of the lens in such a manner that it may be easily and quickly removed or replaced.

The sensitized paper should be held in a printing frame at least 11x14 inches in size with a good flawless glass, preferably optically corrected.

The frame should be so mounted that it may be tilted forward at least fifteen degrees. (See Fig. 5). It is occasionally useful to have it so arranged that it may also be rotated about a vertical axis, though none of the operations hereafter described require the latter adjustment.

Finally, three simple accessories are needed. First is a piece of stiff black cardboard, measuring about 12x14 inches, in which is cut a hole an inch and a half in diameter, two inches above the center and two inches to one side of the center. Also necessary are a black wax pencil and a jar of "opaque". These, together with a human fist and flexible fingers, are all the tools required.

## Four Methods

As indicated previously, there are four general methods of projection control.

1. Control by framing.
2. Control by local printing and "dodging in".
3. Control by alteration or distortion.
4. Control by combination and montage.

### 1. Framing

Framing as a procedure is too well-known and understood to call for detailed exposition, but it is too important a matter to pass over without comment. Framing concerns itself, not only with the problem of fitting the subject within the border and determining the most effective placing of principal and subordinate points of interest, but also with the selection of the most appropriate relation of length to breadth. Different shapes, of course, hold different psychological connotations. A feeling of height, for example, would be difficult to realize with a square composition, which gives, on the contrary, an impression of formality and limitation. The metopes of the Parthenon frieze are typical arrangements within a square. A long horizontal frame induces a feeling of rest, repose, and informality. A recumbent figure would call for such framing as a matter of course. The majority of landscape subjects demand it also. If lettering, or other motive or device, is to be added, care must be taken to mentally allot space and weight to it in framing the picture in the projector.



“Little Jimmie”

Straight Print

## 2. Local Printing

Between the lens of the enlarger and the printing frame there is a space varying from a few inches to several feet. By manipulations within this space, directing and regulating the passage of the light, are performed the twin operations of local printing and “dodging in”, the use of which accomplishes the losing and finding of outline, the building up of significant emphasis, the subordination of undesirable detail, and, finally, the heightening of contrast at any desired point.

For the following demonstration of local printing it will be assumed that the student has a negative of a child's head,  $3\frac{1}{4} \times 4\frac{1}{4}$ , similar in content to the accompanying study of “Little Jimmie”. The procedure described is precisely that used in making this print.

With the orange filter in position, frame the head to the size you wish it to be in relationship to the picture area and close down the diaphragm of the lens to stop f.22.

With the right hand hold the perforated cardboard, described above, in front of the lens, between it and the printing frame. By masking the



“Little Jimmie”  
Locally Printed  
and Framed

hole with the fingers of the left hand it is possible to cut the light passing through to a crescent or a mere pin-point. (See Figs. 6 and 7). Note that a replica of the image appears on the cardboard—slightly blurred and indistinct, it is true—but sufficiently definite to guide you in your printing. Now remove the filter and let a small round spot of light play over one of the eyes. Do likewise to the other eye, being very careful to give equal time to each. Then allow the light to play over the lips for about the same length of time, taking care to avoid the nostrils. Next paint in the hair bordering both sides of the face and darken one or two other accents in the hair. Now, with the hole narrowed down to a mere slit, trace down the side of the head, allowing the light to emphasize the delicate line of forehead, temple and lower cheek. Draw in the neck-line with a slight accent here and there.

Now withdraw the fingers from the hole and guide the cardboard to a place nearer the lens where the aperture will be large enough to permit the entire head to be seen on the print. Allow a general exposure here of about the same length as that given each of the eyes. Gradually



“Circe”  
Straight Print

bring the card board nearer the lens until the entire negative has had an exposure. Replace the orange filter, remove the negative from the enlarger, and close down the lens to its smallest stop. Then, with your fist clenched and held in front of the lens, remove the filter and, with the shadow of your fist shielding the face of your image, revolve your arm and elbow, keeping the center of the print from being exposed. (See Fig. 8). Work gradually nearer the lens until you have obscured the entire print. Replace the filter.

Your print is now complete and ready for developing. You have dealt with your material in a selective manner similar to that of a free-hand artist, with the advantage of being assured perfect drawing both of structure and of likeness. You have emphasized such interesting salient features as the eyes and mouth, have subordinated such secondary or disturbing elements as the nostrils, the bad shadow along the nose, and the confusing pattern of the dress, and have escaped from the literal, monotonous effect of the straight print of the same image. (See illustration). Moreover, you have achieved subtlety in the contour by losing



“Circe”

Finished Print

Involving Framing  
and Elongation

and finding the outline, and, by means of “dodging in” you have obtained a gradation of tone that focusses attention by concentrating the strongest light on the point of greatest psychological interest.

The procedure of “dodging in”, described above, is sufficiently important to merit separate comment. It consists in holding back from printing any desired portion of the picture, while diminishing the contrast of the remainder, thus forcing a higher contrast in the part held back. It is often a useful expedient in making a straight print of a head, securing an increased dominance of the face by reason of its relatively increased contrast and of the darker tones in the corners of the picture. The student interested in landscape photography will find in “dodging” a fruitful field for experiment. Through its use surprising atmospheric effects may be obtained: a stormy glare may be thrown on a calm ocean; the moon may ripple over a mid-day sea; or the sun may be made to rise by the expedient of rotating the finger about a chosen point on the horizon.

A species of local printing is the process known as “vignetting”. This utilizes the perforated cardboard previously referred to. An exposure is



“George Dunham”  
Straight Print

first made of the face (assuming you are dealing with a portrait negative), then the cardboard is gradually moved nearer the lens of the enlarger, giving progressively diminished exposure to the surrounding parts of the print. This yields a picture pale and under-exposed at the edges, deepening to its darkest tones at the center. The general effect is thus the reverse of that obtained by “dodging in”. As a means of increasing PRINCIPALITY it is not successful, owing to the distracting high-key of the edges and corners.

In making use of local printing always study the image in advance, determining which lines should be stressed, which elided or softened, etc., and then rehearse, as it were, the intended manipulations several times before placing the sensitized paper in the frame.

### 3. Distortion

The type of distortion most frequently employed is *elongation*. By tilting forward the printing frame one obtains elongation in varying degrees, depending upon the angle of the frame. By means of cutting down



“George Dunham”  
Finished Print,  
Involving Framing,  
Elongation and  
Local Printing

the diaphragm to almost its smallest stop, it is possible to bring all parts of the image into focus, despite their differing distances from the lens.

Through distortion one escapes further than is possible by local printing from the literal, realistic conditions of the negative. It is for this reason more limited in its applications. One must be very sure that the distortion is already suggested or implied by lines or forms in the original image. If there is, further, a hint of the bizarre, the symbolic, or the idealized, distortion may probably be resorted to with excellent effect. But be sure that the distorted form is (in Clive Bell's phrase) more “significant” than the original.

Examples in idealization are found in the accompanying studies of “Circe” and “George Dunham”. The picture entitled “Fear” belongs rather to the field of the symbolic. Elongation was used in making all three.

This is the procedure for the first two. Tip the printing frame forward about fifteen degrees. (See Fig. 5). Frame the head, being careful to keep the line of the features perpendicular. With the lens wide open,



“Fear”

Straight Print

focus the image at the center of the face. (It may be noted in passing that slightly different distortions may be obtained by focusing at the top or the bottom of the image.) Now close down the diaphragm to nearly its lowest stop, or until the top and bottom parts of the picture become sharp. Give an exposure, which will of course, owing to the small lens aperture, be considerably longer than normal. Local printing may be resorted to also if you wish. After the exposure has been made, replace the printing frame in its usual vertical position, and, with the negative removed from the enlarger and the lens closed down, “dodge in” as described in the section on local printing. This completes the procedure in making the prints “George Dunham” and “Circe”. For sake of comparison, straight prints from the same negatives are included.

The symbolic study of “Fear” is produced by a combination of local printing, elongation, and multiple printing,—all done during projection. A straight print of the original negative shows the extent of the manipulations. The printing frame is tilted and the negative focused upon it, as above described, taking care to allow space in the background for the





*"Fear"*

*William Mortensen*

Finished Print Involving Framing, Elongation, Local Printing  
and Multiple Printing



*"William Mortensen"*  
*Alfred E. Banks*

Figure 9.  
Caricature:  
Example of  
Local Elongation.

addition of the graduated shadows. After closing down the lens till the entire image is in focus, an exposure is made, employing local printing to emphasize the dark shroud around the head, and to build up contrast near the center of the picture. Move the cardboard nearer the lens until the whole image has been exposed. Replace the orange filter and rack the enlarger back about an inch. This will of course produce a slightly larger image. With the fist so held as to protect the image already exposed, remove the filter and expose again, allowing only the dark edge of the drape and a bit of the diaphanous gauze to record themselves. Replace the filter and repeat the process, moving the enlarger further back each time for three or four exposures. Let each exposure be a little less than the one before, thereby securing the mysterious gradation of shadow-forms in the background. Finally, remove the negative, close down the diaphragm to its lowest stop and do the usual "dodging in".

Aside from its pictorial uses, elongation of this sort is occasionally applicable to ordinary portrait work. By tilting the frame very slightly,



“La Chatte”

Straight print from Negative No. 1

not more than five degrees, one may obtain an elongation that, while scarcely discernible, is yet subtly flattering to faces that are unduly chubby.

In the foregoing examples the whole picture is subjected to equal distortion. It is possible, however, to elongate a portion of the image while the rest is rendered literally. Such local distortion is best adapted to caricature in the humorous vein, as in the accompanying picture, (Fig. 9) which represents the author as irreverently interpreted by a pupil of his. To accomplish this sort of distortion a piece of white bristol board, 11x14, is substituted for the printing frame. Thumb-tack the bottom and curl the upper half forward. With the lens wide open, focus the image on the curved portion; then close down till all parts of the image are sharp. Fit the sensitized paper to the curve, clipping it along the edges to hold it in correct alignment. In exposure, allow for the reduced aperture. This method of distortion admits of endless variations: the field of distortion may be placed wherever wished, and the degree and direction of the distortion controlled with fair accuracy. As in other phases of projection control, the opportunity is large for individual development and application of the basic principle.

#### 4. Combination Printing and Montage

The term “montage” was originally applied to a technical innovation developed by the Russian film soon after the Revolution, but it is equally



“La Chatte”  
Straight Print  
Negative No 2

applicable to an analogous procedure with “still” pictures. Differing theories and conceptions of montage have developed, involving rather abstruse philosophical points, but the fundamental principles are clear and unquestioned. Montage means building up and reinforcing an idea by the combination or juxtaposition of diverse pictorial elements. The idea may grow out of likeness of the elements or be generated by the clash of opposites. Always in montage there is the overtone of *an idea* that is not present in the picture elements themselves, but results from their combination. In the accompanying study of “La Chatte”, for instance, the strange hauteur of all cats is commented upon in terms of the inscrutability of the mask and of the ancient mystery of the pyramids.

Mechanically speaking, montage is a matter of combination printing; but not all combination printing is montage. In “The Tribunal”, for example, the construction is entirely in terms of literal picture elements, not of ideas.

“La Chatte” will serve to illustrate the mechanical procedure of most montages. Straight prints of the two negatives reveal that the subjects were photographed with a white background, which is a requisite for negatives to be used in combination in the manner herein described. This



“La Chatte”

William Mortensen

Finished Print Involving Montage, Framing, and Local Printing

background should be so strongly illuminated that it is distinctly higher in key than any portion of the subject.

Place the cat negative in the enlarger and give it a normal exposure with slight additional emphasis to the head by means of local printing. Adjust the orange filter to prevent further exposure, and with the wax pencil indicate on the glass of the printing frame the principal points in the outline of the cat. Substitute the second negative, adjusting it to its proper relationship to the first image by means of the guide marks. Erase the marks, remove the filter, and give an exposure about half the length of the first one. This gives an impression of another lighter-toned plane and permits the cat to dominate the composition. For the final step, close down the diaphragm and “dodge in” slightly to blend the two images.

“The Tribunal” is included as an extreme instance of combination printing, representing the most intricate problem that the student is likely to undertake. It illustrates the ability of combination printing to suggest spaces and properties wholly unavailable to the average student who wishes to experiment with complicated arrangements. The composition



Straight prints from the five negatives used in the composite print "The Tribunal"

of "The Tribunal" was planned by means of a sketch. The position of the elements being thereby established, a separation of the groups was made in such a way as to accommodate the facilities of the studio in space and material. Five negatives were needed to accomplish this. It will be immediately noted from the accompanying reproductions that the relative size of the original images is considerably altered in the finished study. The necessary readjustments of proportion were of course made in the process of projection. Such portions of the negatives as fall behind other objects in the finished composition were opaqued out. Opaquing will be noted on the negative of the standing monk, as well as on the lower part of the legs of the man who is pulling the rope. The picture was printed in the natural order of receding planes, as numbered on the cut. The first negative was given the longest exposure, producing a near-silhouette. The three negatives comprising the middle distance received a normal exposure, while the last one, of the large wheel, was allowed barely to record itself.



*"The Tribunal"*

*William Mortensen*

Finished Print, Involving the use of Five Negatives, Combined and Framed by  
means of PROJECTION CONTROL.

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## Pax Vobiscum

Projection control is a fascinating field and a dangerous one. Superior technical ability is needed and good taste to apply it. It cannot be too strongly emphasized that projection control is *not* a flourish or a fancy finish to a picture; it is integral to the picture, and its use must be conditioned by strict relevance to material. Let nothing that has been previously said about the lesser importance of "picture taking" be construed as sanctioning anything but the most careful procedure at *all* stages of photographic work. Projection control must not and cannot be used to cover up earlier incompetence or carelessness. A good negative, correctly lighted, correctly exposed, and correctly developed, is absolutely necessary.

The procedures described may sound simple, but in first trials they will prove extremely awkward and difficult. Until the requisite manual skill is acquired don't look for any great results. And don't rush before the public, or even your admiring friends, with the early fruits of your experiments with projection control. At this stage it is not well to count too much the cost or to be niggardly of supplies. Be prepared to spoil, or rather to dedicate to educational purposes, many gross of enlarging paper.

Only through painful experiment and discovery may one evade the trammels of the merely technical aspects of the photographer's craft. Beyond technique lies the field of personal expression through purposeful and selective dealing with material. While it is characteristic of the artist to love the purely sensuous qualities of the world, the multitudinous textures of surfaces, the strange shapes of things—the simple recording of these for their own sake, the literal representation of them, does not constitute art. Intimate studies of a cart wheel, a cabbage, or a compound fracture, though they may be exceedingly fascinating and useful in affording valuable problems in composition, in exploring the possibilities of form relationship, and in revealing new fields of pattern and design, must ultimately fail of appeal because of their negligible emotional content. Human emotion has been the basic material of all great art in the past, and always will be, though each generation will express it through its own forms and patterns.

So every artist, when he comes of age, must turn from the primitive sense experiences of the outside world, with its fascinating sights, sounds, and smells, to the conflicts and tranquilities, the complexities and simplicities, the contradictions and unities of the human soul. With the few brittle tools of his craft he will attack huge problems and majestic issues, and will audaciously try to realize the universal in the particular, the eternal in the transitory. In the world's ultimate opinion he may fail; but at least he will have dealt with man-sized problems.



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# Personal Instruction

by

William  
Mortensen

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William Mortensen has for several years accepted a limited number of talented pupils for personal instruction at his studio at Laguna Beach, California. The course, which consists of not less than six three-hour sessions of individual teaching, covers the following subjects:

COMPOSITION

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PROJECTION CONTROL

MONTAGE AND MULTIPLE PRINTING

BROMOIL TRANSFER AND PAPER NEGATIVE

MINIATURE CAMERA TECHNIQUE  
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*Students who have completed the course are for a period of a year permitted monthly conferences and criticisms.*

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For further information address William Mortensen, care of Camera Craft Publishing Co., or Box 255, Laguna Beach, California

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703 MARKET STREET  
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# AN EXPOSURE WORTH MAKING— IS WORTH SAVING



Print obtained from the half of the negative which had been intensified for 1½ minutes in **Victor Intensifier**.

This side shows print obtained from the half of the negative which was not intensified.

Thin, underdeveloped negatives can be easily and quickly built up to proper printing density by a short immersion in

## **VICTOR INTENSIFIER**

a simple, single-solution intensifier of great strength.

### PRICES

No. 1 Powder, makes 4 ozs. solution.....	\$0.25, Postpaid \$0.30
No. 2 Powder, makes 8 ozs. solution.....	.45, Postpaid .50
No. 3 Powder, makes 16 ozs. solution.....	.85, Postpaid .90

## **VICTOR SPOTTING COLORS**

FURNISH IDEAL COLOR MEDIUMS FOR SPOTTING OR RETOUCHING PHOTOGRAPHIC PRINTS OF ALL TONES



No. 1 Set

The Brown and Sepia are correct colors as named, blending in nicely on prints of these shades. And the Black will not only dissolve more readily than India Ink, but will also adhere better to the print.

They are supplied in two very convenient forms, viz.: The No. 0 and No. 1 on celluloid sheets and the No. 2 in opal glass jars. The color is picked up direct from these sheets or jars with a moistened spotting brush. All dissolve readily and adhere perfectly to the print.

A very liberal amount of color is supplied in these sets, making them very inexpensive to use.

### PRICES

No. 0—Black, photo brown and sepia shades, per set.....	\$0.20
No. 1—Black, white, photo brown and sepia, per set.....	.45
No. 2—Black, white, photo brown and sepia, per set.....	.80
No. 2—Any single shade, each.....	.20

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PRINT COLLECTORS will find these portfolios one of the greatest values ever offered. They afford a most unusual opportunity for those beginning a collection.

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An Indian Lyric	Johan The Mad	Betty	Circe
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The Kiss	Tantric Sorcerer	Myrdith	Nude Study
Obsession	Human Relations 1932	La Chatte	Caprice Vennois
A Romany Maid	Patricia	The Maid of Tunis	
	Nicolo Paganini	A Siren of the South Seas	

Single prints, portfolio size, [7¾"x9¾"] are available at \$3.00 each

Salon Size Prints [11"x14"] may be obtained on order at \$15.00 each

CAMERA CRAFT PUBLISHING COMPANY

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