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GOOD LANTERN SLIDES OF BIRDS

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The making and painting of lantern slides is a somewhat neglected corner on the field of Bird-Art. Photography has advanced. Technique has developed. Never do we attend an ornithologists' convention these days without being thrilled by new camera bird-portraits brought from far and near. Yet we continue to see lantern slides of these very photographs that are less interesting than they should be, poorly composed, and badly painted.

We purpose to present here some suggestions regarding the making and painting of lantern slides of birds. Assuming that photographic methods are understood, we suggest first that slides be printed by projection rather than by contact. This permits the enlarging of the small bird-image on the negative to any desired size. It permits the elimination of details in foreground or background that are unnecessary or out of focus, or that tend to destroy the center of interest. And it permits a proper framing of the slide.

Enlarging is important not alone because we usually wish to see the bird first of all, but because the larger image of the bird itself gives us an opportunity to paint in details of feather-pattern that would otherwise be missed. The elimination or subordination of inconsequential parts of a picture is important unless we are interested primarily in showing the bird *in its habitat.*

The framing of our subject is important. Thus, if our bird is flying, we must remember to allow more space in front of it than behind. If a flying bird is exactly centered, the slide is likely to appear crowded unless the bird-image is kept small. If we are framing a flock of flying birds it is well to avoid cutting any bird in two; and it is extremely bad to leave on the slide the rear half of a bird. A bird that is standing still may be centered. An owl that faces us may be centered. But a bird that is walking must have plenty of space in front of it—at least as much space in front as behind. And if the whole bird is shown, the head or eye, and not as a rule the body, de-

termines the center of interest, so that the body often should occupy a lower corner or lie within the lower two-thirds of the finished slide.

In printing much care must be given the matter of exposure. The success of a colored slide greatly depends upon this one step in the process. If a slide is underexposed the colors are likely to be blotchy and overbright, no matter how carefully they are put on, and they tend to bury details that should show. If, on the other hand, the print is overexposed the effect will be muddy. Nor can this muddiness be corrected with any amount of laying on of color. If overexposure is bad the whole picture is dark and colors that are added make it darker, not brighter. The only slide that can be colored satisfactorily and at the same time with ease is one which has been properly exposed; one which shows good detail and a degree of contrast. Getting this proper exposure often means several trials, alternating with each trial the length of exposure and the strength of developing fluid. A slide may, of course, show too much contrast, the blacks too black and the light areas too white. Such a print lacks detail and is to be discarded unless a purely artistic effect is desired.

It is always a good plan to project a slide with the lantern before undertaking to color it. This permits us to make a new and better print, if necessary, and to proceed intelligently with the painting.

In making a slide that is *not* to be colored, the usual acid fixing bath is desirable. This acid fixing bath should not be used, however, with slides that are to be colored, for it has a tendency to harden the gelatin so much that the water (and therefore water-color) is repelled. A slide that is to be colored should be fixed in a bath containing hypo and a 2.5 per cent solution of sodium bisulphite. This bath will not harden the gelatin; consequently, if the slide is held over a warm light while it is being painted, or if the temperature of the room becomes too high, the gelatin may become so soft that the brush will dig into it. Should this occur, the slide should be dipped two or three times in a 2 per cent solution of formalin, then thoroughly rinsed and dried before the painting process is resumed.

Now for the coloration. In most slides a large part of the background is light in value—this lighter part frequently being the sky. When first we began painting slides we gave all this lighter part—indeed sometimes the whole slide—a light blue tinting, using a big soft brush and plenty of water. Such a general tinting of any slide is a mistake, first, because it tends to make the whole picture dull; second, because it gives color to certain parts of the foreground which should remain *entirely uncolored* or which should receive colors of a

different sort than blue. In twigs that cross the sky, for example, there are nearly always highlights that are dominantly yellow or red and not blue. It is a bad mistake to deaden such reddish or yellowish tones with an indiscriminate blue wash before painting them.

What we have just said about the undesirability of toning down any large part of a slide with blue is even more true of green. How many slides have we seen in which some unfortunate, sickly shade of green is smeared all over that part of the photograph showing grass or shrubbery! Of all the colors that we find in nature perhaps none is so infinitely variable as green. In a single leaf there are a considerable number of shades, some of them the result of chlorophyll itself, others the result of colors reflected from the sky, from clouds in the sky, or from any number of surrounding objects.

In painting backgrounds where the blue or gray of a sky predominates, put this blue in in sections if branches cross, leaving the greater part of the branches wholly without blue. If cloud effects are desired, leave parts of the sky untouched with blue, using plenty of water so as to avoid hard edges anywhere. And leave untouched all parts of the foreground that in the finished slide should be strongly white, or yellow, or red. Parts of the foreground that are finally to be green may be washed with blue, for making these parts green means the superimposing of yellow—a simple process. But for reds and yellows a blue wash is fatal.

In painting backgrounds where greens predominate, introduce these greens in small sections, following a single grass-blade or a single leaf with one stroke of the brush, then changing the shade by adding a little brown or a little yellow or a little red for the leaves and grasses close by. In other words, break the green areas up into patches of brown, yellow, blue, red, and purple. Do not be afraid of overdoing the variety of shades. If you find your results a trifle too patchy, run them together by stroking the whole area with a water-filled brush, or by giving the overly spotted areas a faint bluish or yellowish wash.

The painting of gravel such as often surrounds a Killdeer's nest is not easy. A single tone of brown or gray will not do. Touch each prominent pebble with bright color—pinkish, yellowish, purple, or orange. The pebbles that do not show prominently do not matter much, but colors on those that receive the strongest light will give the slide sparkle.

The leaves of coniferous trees are not easy. Great care must be exercised in painting pine needles that show against the sky. The green must not be smeared across the distant blue; better far to leave

the needles unpainted altogether than to smear them in. And remember, too, that the colors of spruce boughs are often as gray or glaucous blue as they are green. Painting any piney woods means a constant fight against solid washes of green.

Bark, like gravel, requires spots of brilliant color here and there to keep it from being monotonous. Of course, there are limits: it would be a sad mistake to give aspen or sycamore or white birch bark an overdose of red; but bark should be treated as the green of a shrub is treated, with due regard for the variations of shade that occur everywhere as a result of reflection of color from surrounding objects.

Now for the birds. It is a good idea to have a specimen at hand so that shades may be carefully matched. Proceed with great care with any sort of general wash. Remember that any part of the bird that is white must *stay white* and not be touched with any wash unless it happens to fall in a shadow. If a white part of a bird falls in shadow that shadow is likely to be blue, not purple; and sometimes in the shadow there will be a hint of yellow or orange or brown or green reflected from surrounding objects. White birds, such as gulls, against a blue sky are among the most difficult of subjects. Here no blue of sky must cross the white plumage that is struck by the sun. This means painting the blue of the sky directly and very carefully up to the bird's body and no farther. Keeping the blue even and at the same time not smearing it over the bird is sometimes exceedingly hard. A mistake may necessitate washing the slide completely and beginning all over. We may someday discover some substance (such as rubber cement) that can be put on the figure of the bird that will permit us to proceed with a broad painting of the sky, remove our temporary coating, and finish the bird; but by that time we may all of us be able to photograph directly in color, and the painting of slides will be outmoded.

Wherever there is a center of interest in our slide there should be a strong light, hence sharply defined highlights, deep shadows and pure colors. This usually means the use of some heavy color such as purple or thick black, placed with great care in the deep shadows beneath eggs or in the darkest part of the pupil of the eye. Be the print before us ever so sharp and clear, and its darkest parts ever so dark, the adding of this heavy black, in opaque color, will add depth to the slide and produce a three-dimensional quality that is sometimes very striking.

The use of opaque color involves a special technique. Mixing a heavy black with a transparent blue, it is possible, if we work quickly, to give such a color area as the black crown of a tern a wonderfully

rich, glossy appearance. We ought to have some sort of transparent paint with which to step a neutral tone gradually down with application after application, but we have thus far not found such a paint. The "stone gray" that is usually included in books of lantern slide colors is hopelessly granulated. We rarely find it possible to use this color at all. So, as a rule, we resort to thick black, that may be mixed with blue or green where glossy plumage is involved; or, in achieving a gradually darker shade, to color after color superimposed in such a way as to neutralize each other.

This toning down of some objectionably light part of the slide is an interesting process. Suppose one corner of our print is for some reason far too light; or that a waving grass blade or leaf crosses in such a way as to produce a disagreeable effect. It is rarely possible to correct such a flaw with heavy opaque; usually we want to tone it down or to efface it by merging it with the background. To do this, put on first a bold, bright layer of pale pink. Put over this a layer of thin green. The resultant queer brown must be overlaid with purple or yellow or any other shade that is needed for neutralizing. Spotty effects are likely to result, of course. These spots must be handled individually. Each application should aid in the neutralizing process and gradually darken the tone. Bear in mind the complementary colors. In toning down what appears to be too strong a green use red; in neutralizing purple use yellow; and so on. The effects of such a treatment are often highly satisfactory. Even so difficult a spot of white as that which results from a finger nail scratch on the negative may be completely obliterated with a treatment of this sort. Be careful, however, in doing this, for an area so treated is likely to become dark with surprising rapidity.

The use of opaque colors, either heavy black or pure purple, is helpful in strengthening shadows. This is particularly true with such subjects as nests or birds on the ground where certain grasses and leaves are out of focus. Prints that are at first sight a hopeless blur may be given definition or brought into focus through the wise use of opaque color.

The use of opaque color in retouching a negative is a field of its own upon which further experiments may well be made. In building up our series of slides we occasionally come upon a photograph of some bird whose coloration is bright, but in which these bright areas appear very dark, even blackish, in the print at hand. Such is likely to be the case with a tern whose beak is bright red or orange; a ptarmigan whose comb is bright red; a Ruby-crowned Kinglet or a Red-

poll. These bright colors frequently "go dark" in the process of being photographed, so dark as to be quite beyond us in our painting unless we radically change the negative and print.

We have had good success in thus doctoring an occasional negative. In a Redpoll portrait, for example, we opaqued the red cap so completely in the negative that in the print it appeared a glaring, impossible, altogether flat white. But by applying proper tints we gradually brought this cap down to the proper shade of red, with the result that we now have a slide that is interesting and that shows a real Redpoll, not a Redpoll with a sooty crown.

Some persons will brand this doctoring of negatives as "Nature Faking". And, to be sure, that is just what it is. The whole business of photography is a nature-faking business. What we get in our final, unretouched print often is a far cry from what we actually saw at the time our photograph was taken. What we want in our final slide is the best likeness we can achieve of our subject. The light has played tricks on us. The camera has failed miserably in catching shadow-color. Parts of our subject are out of focus. Our task is to build up, as best we can, images of the subjects that will do them justice.

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CENTRAL WISCONSIN CRANE STUDY

BY F. N. HAMERSTROM, JR.

Sandhill Cranes (*Grus canadensis tabida*) are among Wisconsin's rarest breeding birds (Henika, Scott). The fact that a few cranes persist is due more to the tolerance of a few landowners than to any direct action toward maintaining or improving crane habitat. Although they are legally protected, protection alone has not been enough to swing the balance in their favor.

The chief reason for this casual treatment of so rare a bird seems to be lack of definite information upon which to base a program of active conservation. To make a start toward the needed factual base, in 1936 and 1937 a brief crane study was made as a part of the research program of the Central Wisconsin Game Project, Necedah.* The purpose of the study was to map the position of the crane ranges on and close to the Project and to learn something of the character of

*Farm Security Administration, Project LD-WI-5.

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