A NOTES ON BIRD PHOTOGRAPHY

Ever since the invention of the hand camera, and perhaps even before, photographers and ornithologists have dreamed about photographing birds. To obtain a clear image in black and white of these elusive and active creatures must have seemed in the beginning to present insuperable difficulties. At that time no one even dreamed of recording them in color. There was, however, an early and persistent desire to make photographs, because to photographs more than to paintings or to any other form of illustration was attached the concept of verisimilitude and of reality. Because paintings are imaginative creations, those of birds are regarded with a certain amount of skepticism[no matter how exact they may be] for they are inevitably subject to human error. Photographs, on the other hand, were considered real, to tell the truth, to give an literal record of what was in front of the lens. The-camera-never-lies point of view was generally accepted. Illusory as this belief is now recognized as being, there is much truth in the idea that a photograph does give something that a painting cannot do. Although it can be manipulated to give a great variety of emphasis - that some critics call distortion of truth - yet it does irretrievably and inevitably record a moment in the history of the subject, and this happens, or it is within the nature of the process that it can be made to happen, with great precision, and in great detail. It is these qualities and these potentialities apart from its creative aspects that have lent to photography the appeal that it carries as a medium for illustration and for recording the histories of living things.

In the early days the idea that photography could be used for these purposes was quite visionary. Birds were known for their habits of hopping around in dark bushes, perching in the tree-tops
and flying through the air. How could they be photographed with the slow plates and slow lenses available fifty years ago? The answer is simply that they could not be—at least, not well. Never-the-less, the attempt went on, in spite of the severe limitations of the equipment. Images of birds were obtained, recognizable as birds if not as to kind. Bird photographers accepted the limitations of their cameras and films and became complacent about their results. Their feathered subjects could only be photographed when they were quiet and composed and perched in the bright sunlight. Photographing birds in flight or in the deep woods was an impossible task. With the introduction of reflex cameras, particularly the Graflex in this country, which was regarded as the ultimate in equipment, the situation was somewhat bettered, because at about the same time there had been an improvement in emulsion speed, panchromatic film had been invented and improved optical design permitted the construction of faster lenses; but naturalists still depended on could inducing their subjects to pose in the sun. They now, it is true, could photograph some of the larger, slower moving birds while soaring and in flight, although there was no improvement in other respects. Even if they had had available the fast film of today they would have been little better off since the increase in emulsion speed has been in the neighborhood of twenty-fold whereas the ratio of brightness of objects in noon sun and the deep woods is often more than one-hundred.

So we see that bird photography today, had it not been for radical departures from the old concepts, in spite of all the new fangled cameras on the market, would still be in the stage of twenty years ago. The principal radical innovation came about from the adaptation to bird photography of the invention of a powerful
source of artificial light, which made possible photography under any conditions of sun or shade. In fact it made the photographer quite independent of natural light except when photographing large birds. The invention that brought about this change was the foil-filled flash lamp that press photographers use so commonly and for whom it was probably originally intended. The burst of light from this device is very intense. Indeed, when it is combined with a reflecting surface and placed not far from the subject, an illumination many times brighter than from the sun can be obtained. Thus, for the first time it became possible to control light and, by properly synchronizing the shutter with the light flash, to photograph birds at relatively high speeds independently of natural conditions. Pictures could now be made in the deep woods or on cloudy days, and by skillful manipulation of lamps and reflectors a smoother, less spotty, more pleasing and revealing illumination could be arranged. While most important of all, exposures could be made at much smaller apertures, producing pictures of far greater clarity and depth of field than ever before been possible.

Still, the limitations imposed by mechanical shutters on the photography of flying birds remained. Open-and-shut shutter speeds of 1/800th of a second were considered good and faster ones remarkable, and not only was the difficulty of synchronization with flash lamps considerable but there was also a necessary sacrifice of much of the available light with these speeds. Nor was much improvement in the situation to be expected in any case by this approach since even 1/500th of a second is slow in terms of the flight of birds. A novel approach to a solution of the difficulties of photographing moving objects was taken by side-stepping the mechanical problem entirely. Dr. Edgerton developed a very short-
The duration, high-energy flash which could be made to occur almost instantaneously when the leaves of any between-lens shutter are open. Time The flash time itself becomes, in a sense, the shutter, determining the exposure time. The principal of this ingenious device is briefly to discharge the energy stored in an accumulator at high voltage through a gas-filled electronic tube. As the discharge occurs the energy in the tube largely in the form of light. By proper choice of the voltage and accumulator capacity it is possible to obtain the energy output and flash duration desired for a particular photographic problem. Since there is an insignificant triggering lag, a flash time of 1/5000th of a second can be synchronized with relative ease to occur invariably when a shutter is open at its greatest operating speed. Furthermore, by using a large bank of condensers the total light output can be made equal to or greater than the output from conventional flash lamps. The advantages of this equipment over all previous schemes should readily be appreciated but unfortunately they have been attained at considerable sacrifice of portability. Photographs may now be made anywhere and under almost all climatic conditions except heavy rain at high speeds and small lens apertures.

With these technical advances there has been an inevitable increase in our knowledge of the birds themselves, particularly in reference to their adaptability and tolerance of equipment near their nests. Although there are some striking examples of correlation between species and shyness, it is not as general as it is commonly believed to be. Rather, the usual differences between birds in this respect seem to be an individual one. One robin builds its nest above a doorway where it is in frequent close association with people and shows little fear of them whereas another in the forest is extremely wary and difficult to approach.
A difference is also found very often to exist between the individuals of a pair, where either sex may be so fearful that it leaves all care of the young, during photographic operations, to its much tamer mate. Many bird photographers spend a good deal of time building and decorating blinds or hides in which they feel it is essential to conceal themselves on all occasions while photographing birds. Indeed, they are essential for photographing many kinds of birds, especially birds of prey and many of the colonial breeding species, but for most of the small birds they are simply a waste of energy and a nuisance. It is very inconvenient to operate a camera with flash lamps from a blind, especially when the blind encompasses the camera, and when it does not it might just as well be eliminated and the equipment operated from a slight distance by remote control.

Of course, owing to the individuality of birds there are always exceptions. However, at a distance of fifty to seventy-five feet most nesting birds pay very little attention to a quiet observer. They will be disturbed slightly after each exposure when he goes to his camera to change the film, but generally very quickly accept the situation and often return to their nests before the photographer has even had time to get back to his control switch.

Many times I have been asked whether all this apparatus does not cause the birds to desert their nests or, if they accept it at first, whether the first flash does not frighten them so badly that they abandon their young. I suppose all bird photographers have occasionally had the misfortune of seeing their activities bring disaster upon birds, and I am no exception, but by being always considerate of their welfare one can usually avoid doing them harm. At the first indication of desertion or injury to the young the equipment should be moved to a distance at which it is accepted.
by the birds. From there it is moved up gradually as they become used to it. In the great majority of cases, however, the apparatus is quickly accepted by birds with young in their nests, whereas the flash itself has no noticeable affect on them. In fact, birds will adjust to a great deal more in the way of strange and unusual objects near their nests than they have ever been given credit for. My equipment consists of a 4x5 Graphic View Camera on a very sturdy tripod to which is attached by adjustable arms three flash lamps, one near the camera and the other two arranged for side lighting, but all about thirty inches from the subject. The rest of the equipment including power pack and batteries is near by. Sometimes I also set up a photoelectric tripping device by which the birds take their own pictures as they fly through a light beam. Beyond a certain point it seems not to matter how much additional equipment is added. Perhaps birds are like seals, which fishermen say can only count to three, beyond which, like our infinity, to them there is no greater quantity.

The majority of birds build their nests within ten feet of the ground and are reasonably accessible for photographing from a standard commercial tripod. There are still a good many, however, that build them considerably higher than this that may be very desirable to photograph. Two opposite solutions to this kind of problem exist: the camera and other equipment can be raised to the level of the nest (telephoto lenses are not practical with flash equipment), or the nest can be brought down to a convenient height for photographing from the ground. The first solution is applicable to woodpeckers and nests in deciduous trees. For this purpose a portable scaffolding or large tripod made out of two-by-fours is often very useful. When this is insufficient the only procedure
remaining is] to build a platform in the tree or to erect a tower. The second solution is especially useful for nests built in coniferous trees which do not wilt. Here the procedure is to cut off the branch on which the nest is placed, after carefully securing it with ropes and balancing it so that it will not upset, and then to lower it by small increments, giving the parent birds a chance to become accustomed to each new location until it has been brought down to the desired height. Removing the nest by itself and placing it on another branch lower down seems to me a much less desirable solution since it changes the site chosen by the birds.

With complete success and without harm to the birds in any case I have lowered several nests that would have been virtually impossible to photograph in any other way. One of the first to be moved involved climbing up and down the tree many times and a good deal of trepidation to boot was the nest of western tanagers built in dense foliage, thirty-five to forty feet high, near the end of a long branch of a ponderosa pine overhanging a ravine. The branch curved upwards at its outer end where all the heavy foliage was growing. Unless it had been counterbalanced in some way it would certainly have turned upside down as soon as it was cut off.

To prevent this misfortune a strong yoke of wood and angle iron was bolted to the top of the branch. To this the rope was attached, passed over a crotch higher up in the tree and tied near the ground. Then the branch was sawed off - chopping would have been too rough - and the whole contraption lowered about six feet. When the tanagers returned they first flew to the empty place in the air where their nest had been. They were quite bewildered at finding no branch or anything else, although just below them, only a few feet away in plain sight was their nest full of hungry and eager young. They flew
up to the top of the tree to look the situation over, while I nervously waited and wondered how they could be so blind and hoped that I would not have to raise that heavy branch back again. On the third try at the empty place the tanagers alighted on the "new" branch which had mysteriously appeared conveniently below the place where their nest had previously been, and there, not apparently to his surprise at all, he found his children whom he immediately fed and flew off without informing his mate. She continued to fly around looking for nest until he returned with more food. This time he had less trouble finding the young birds and she followed him to them. From then on, much to my relief, all went quite smoothly until the nest was lowered and swung around to within about two feet from the ground on the uphill side of the ravine. Once this stage was reached photographing these birds proved quite easy. When I finished photographing, I hoisted the branch up again a few feet where the young birds would not be such ready prey to predatory animals.

Every day or so thereafter I visited the tanager family and I am happy to say that the brood was successfully fledged.

The last nest that I brought down from the tree tops — it literally was in a tree top — was one built by a pair of Ruby-crowned kinglets. These are birds that I had always hoped to be able to photograph, but their nests are not at all easy to find because they are usually cunningly concealed high up in the densest foliage of spruce trees. Just once before I had found a Ruby-crowned kinglet's nest. Only by spending many hours watching a male kinglet, who eventually led my eyes to it, was this one found. During the nesting period the male bird sings exuberantly and indefatigably, and it is because of his loud song that he can be seen and followed at all,
but he is so small that he can quite unknowingly elude the most diligent watcher. This one unknowingly revealed to me the hiding place he soon learned of his nest, but that I had concealed discovered his secret. It was not more than six feet from the top and next to the trunk of a fifty feet tall Colorado blue spruce. Not a very substantial place even to climb to, to say the least. Fortunately, about ten feet from this tree grew a considerably taller spruce, from the top of which it was possible to lasso the top of the nest tree and to fasten a rope above and across. The top of the nest tree was then cut off several feet below the nest and gently allowed to swing over into the space between the two trees. The kinglets behaved in much the same way as the tanagers but became accustomed more quickly to the new positions of their nest as it was gradually lowered to the ground. Here again I had little difficulty in getting photographs.

These two examples illustrate how it is possible to solve one kind of problem that frequently confronts the bird photographer. Many others will arise from time to time, each will differ from all others in some respects and each will call for a special adaptation of a previous solution or will require new stratagems and greater inventiveness. In the end, all the time and energy that I expend in these directions are not given for the purpose of collecting photographs of birds. Instead, it is done with an uncompromising determination to raise the sights and standards of bird photography to a point where it shall be able to take its place beside the best of all photography. Unless the final picture is envisaged and the photographic process exploited to its maximum potential to bring this image to reality, this purpose will never be accomplished except accidentally.
Flash photographs have been subjected to much criticism on account of their night-like appearance. They are objected to quite often because of their black backgrounds and unreal quality. The latter characteristic may well be a real fault and, when it is, may have resulted from a poorly conceived or carelessly executed lighting plan. A black background can, indeed, be too striking, but it should be considered that a light background full of amorphous, blurred and distracting objects is perhaps more confusing than black. If all were in focus, on the other hand, the situation might be even worse. I judge that the objection to the black background by and large stems from a conservative dislike of a new and different way of doing things. Often it does give an appearance very much like the true state of affairs. Peer into a thicket on a dull day and what do you see? The leaves and branches nearest to you are brightly lighted, those further in are dimmer with dark shadows around them very much like a flash photograph. On the other hand, on a sunny day the bush is full of flecks and dabs of light. Against this background it is very difficult to obtain unambiguous photographs, but with flash the spotted effect of the sunlight is completely swamped out.

Photography is a creative art. Photography of birds differs from photography as a whole only in the specialized character of the subject. Its potentialities are no less or no more than the whole. The statement of a photograph – its ultimate meaning and truth – is not concerned with nor derived from the subject matter. It comes from the essence and spirit of its author mirrored in it and it speaks truth to the degree that he has left a clear and honest imprint on his work.
To me

For me the reason for spending so much time and energy to photograph birds

That the primary purpose is to obtain photographs of birds is not sufficient reason for me to spend so much time and energy photographing them, but/also to raise the standards of bird photography to those of the best photography of any kind.

To make the primary purpose for spending so much time and energy primarily collecting bird photographs is insufficient reason for me.

The primary purpose for me

My purpose in spending so much time and energy photographing birds is primarily to raise the standards of bird photography to those of the best photography of any kind, and only secondarily obtain to/ more photographs of birds.

My purpose in spending so much time and energy photographing birds is not merely to obtain more photographs of birds but to raise the standards of bird photography to those of the best photography of any kind.