

DOUG PRINCE

Doug Prince was born in Des Moines, Iowa, in 1943. He began the study of photography as a freshman at the University of Iowa, where he earned a BA in 1965 and an MFA in 1968.

For the next eight years, 1968-1976, he taught at the University of Florida as an assistant professor of photography. In 1972 he won Le Prix de la Ville D'Avignon.

Since 1976, Prince has been an assistant professor at the Rhode Island School of Design. He was awarded a National Endowment for the Arts grant in 1977.

Selected one-man shows:

1973: Light Gallery, New York, N. Y.

1974: University of Tennessee, Knoxville, Tenn.

1975: Light Gallery, New York, N. Y.

1977: Rhode Island School of Design, Providence, R. I.

Selected group shows:

1970: Museum of Modern Art, New York, N. Y.

1973: Princeton Art Museum, Princeton, N. J.

Hudson River Museum, Yonkers, N.Y.

1974: Photographers' Gallery, London, England

Lowe Museum of Art, Miami, Fla.

1975: Addison Gallery of American Art, Andover, Mass.

Selected collections:

Museum of Modern Art, New York, N.Y.

International Museum of Photography at
George Eastman House, Rochester, N.Y.

Exchange National Bank of Chicago, Chicago, Ill.

Philadelphia Art Museum, Philadelphia, Pa.

Worcester Art Museum, Worcester, Mass.

University of New Mexico Art Museum, Albuquerque,
N.Mex.

Kansas City Art Institute, Kansas City, Kans.

Princeton Art Museum, Princeton, N.J.

Museum of Fine Arts, St. Petersburg, Fla.



BECKY NEW

When I was in graduate school in 1967, I started working with the idea of three-dimensional imagery in the form of Plexiglas boxes. For some time I had appreciated all sorts of objects dealing with spatial relationships and optical illusion. For example, I liked the 19th-century ambrotype, a negative on glass, which is backed with black to create the illusion of a positive. There were many other things, such as Victorian Easter eggs with peepholes into contained environments, and miniature dioramas with openings through which landscapes are revealed.

All of a sudden, it became evident that it was possible for me to make photographs three-dimensionally by suspending film positives in Plexiglas boxes. The kind of excitement produced by innovating an idea, working on a frontier, was very important to me at that time. I've since grown to feel that although originality of approach is important in one way, in another it isn't. Now I see the boxes simply as a way of making images.

I had a teacher who actually told me not to work on them because the artist Robert Rauschenberg had beat me to the idea. But Rauschenberg's work consists of large circular pieces that rotate. They had nothing to do with my work.

However, in ARTFORUM I had seen a box done by Carl Cheng, a California artist, and it really stole my thunder for a while. But by this time, the idea of working in three dimensions had become so well integrated into my thought process and vocabulary that I had to proceed.

The structure of the box itself fascinates me: all in plastic, held together with nylon screws. It conveys the idea of a futuristic hologram, in which the illusion is created of a real object suspended in space. At the same time, the box has the Victorian feeling of a photograph in a setting. It reminds me of the 19th-century daguerreotype done on silverplated copper, and held in a case.

When I am thinking about doing a box, the initial response, the first inspiration, is stimulated by the outside world. Perhaps I see something that I recognize as usable in a box. Perhaps I make a straight photograph in daylight, or use flash at night or indoors.

The second response is stimulated by the proof sheets, which have evolved into a very important part of my work, thanks to Jerry N. Uelsmann. It wasn't until I was teaching in Florida with Jerry that I even started to make them. Jerry said, "Oh, my God, you don't make proof sheets!" Until that time, I simply read my negatives, or thought I did. Proof sheets are the only way I have access to all of those $2\frac{1}{4}$ negatives (Figures 1 and 1A).

From the proof sheets, I try to figure out which images, and which combinations of images I want to work with. This is a very important point: when I'm working on a blend or making a straight photograph, I think in terms of combinations of elements, and therefore the boxes are

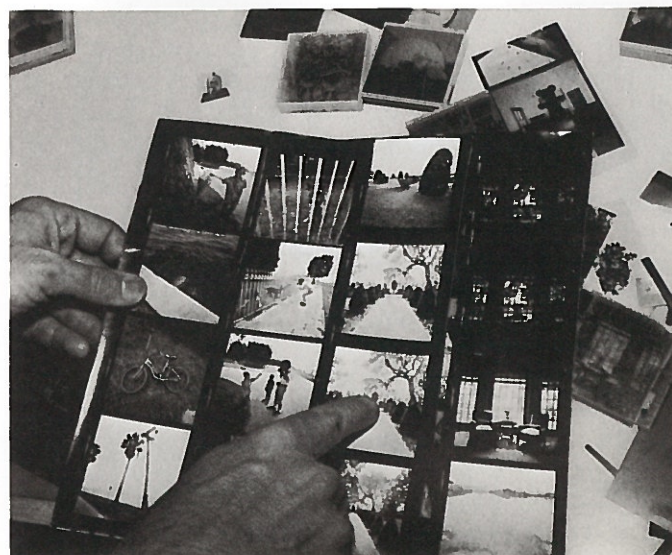


Figure 1.



Figure 1A.

related to the other ways in which I work. It would be unfair to separate them from the rest of my photography, and to see them as an isolated process. When I make a straight photograph, I may find elements of an environment, a light situation, a time, or a space that I want to combine in a single negative, a single exposure in the camera. The same thinking process takes place when I make a blend of more than one negative, bringing objects together with foreground and background, or sky and landscape, to form a new image.

Once I have selected possible pictures for a box, I make more contacts, but this time on graphic arts film (Figures 2

and 2A). Graphic arts film is a term used to describe a wide range of products made by many manufacturers, and readily available on the marketplace. Kodak happens to make the one I use, which is called Kodalith. There are many types of Kodalith, each one designed for specific applications in industry and commercial printing. I use the regular thin-based Kodalith Type 3.

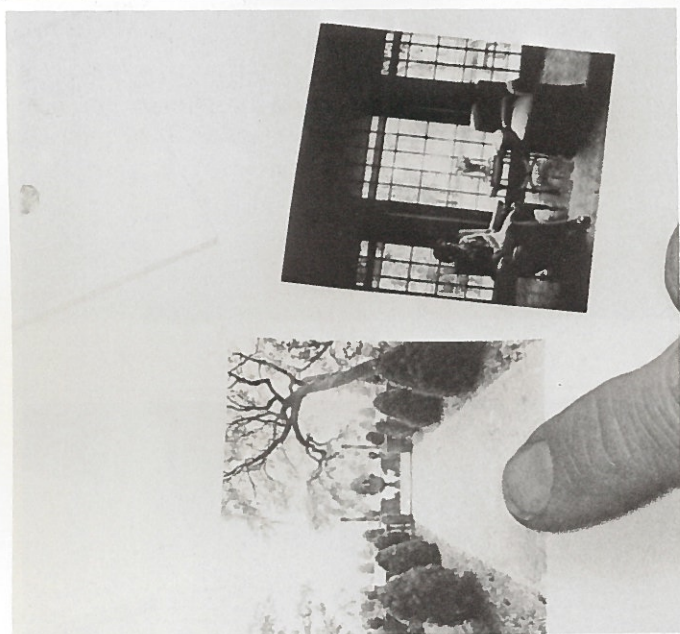


Figure 2.

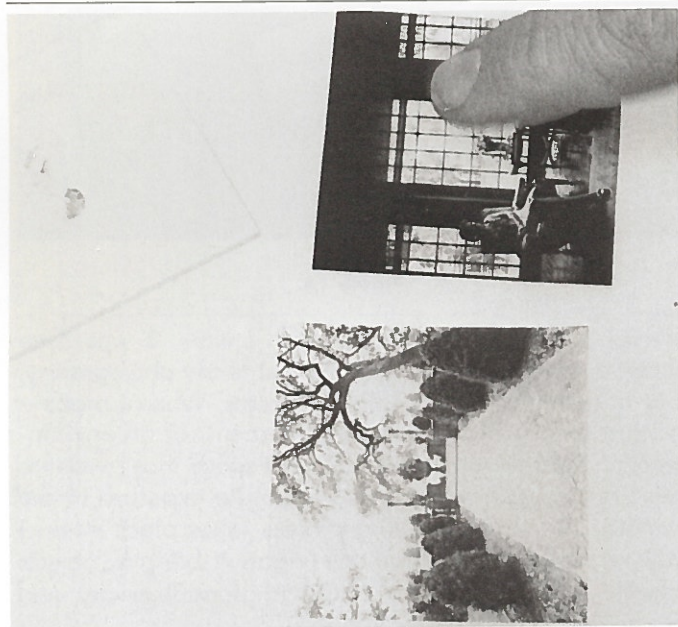


Figure 2A.

After cutting out the individual pictures printed on the Kodalith, I dump them onto the light table and start sorting them out. I may have a pile of foregrounds and a pile of backgrounds. I play with them until things click.

At this stage, two things happen in the creative process. One is that accidents take place. There is a real potential for random events, and I accept the accidental falling together of parts as a gift. But I do have some kinds of preconceptions, and the second step is to test whether those preconceptions coincide with the reality of the images when they are put on film and spaced apart.

I test my ideas by making miniature boxes out of the Kodalith contacts. I put 2" square panels of Plexiglas together and hinge them on one side with tape. Then I slip the contacts between the layers of Plexiglas. From this "three-dimensional proof sheet," I get an idea of how the space will function. Here is a layer I am working on now, shown without background or foreground (Figure 3).



Figure 3.

To begin work on a finished box, I enlarge a negative onto Kodalith to the desired size, usually 4" or 5" square. An average exposure for an enlargement might be five seconds at $f/16$, but it varies (Figure 4).

My enlarger is a 4x5 MCRX Beseler. I use an EL-Nikkor lens, and a 150 watt bulb.

If I were printing the same negative on paper, I would use different filters or grades of paper to change contrast and achieve a full tonal range. But with Kodalith, I can change contrast only by working with developers. For the least possible contrast, I use a regular film developer like Kodak D-76. Each of the following Kodak products, in order, produces an increase in contrast: D-19, D-11, and D-8. Kodak DK-50 gives a continuous tone and medium contrast. The highest contrast is produced by Kodalith A&B.

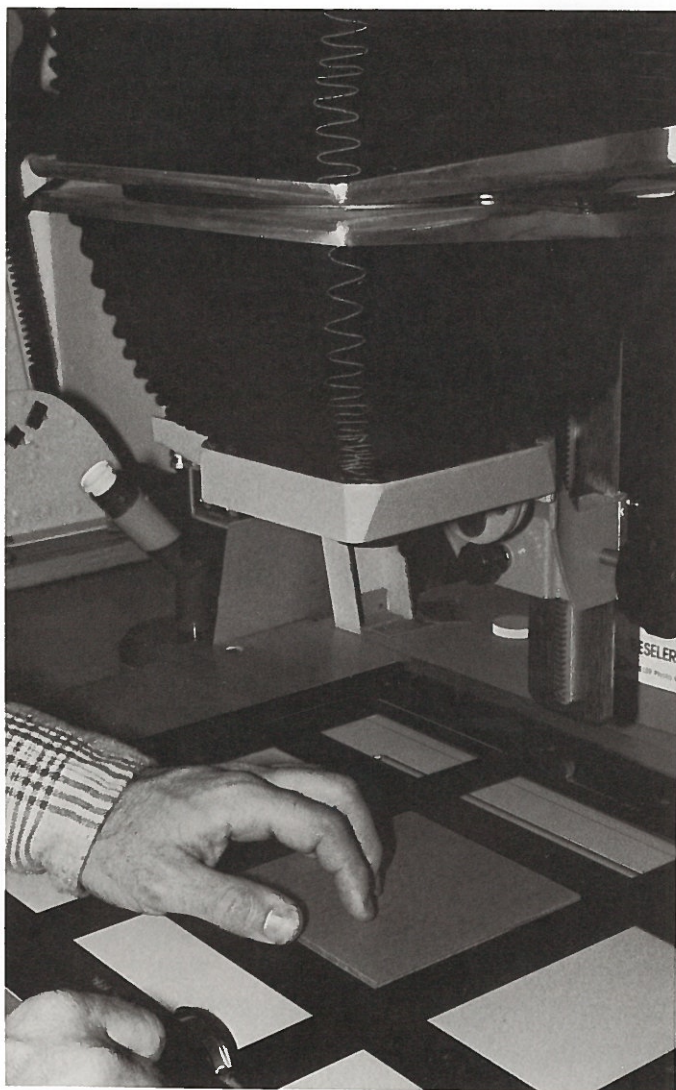


Figure 4.

Most of the time, I use a paper developer made by Sprint called Quicksilver on the Kodalith. Quicksilver comes in liquid concentrate form, and is normally diluted 1:9 for paper. It gives a continuous tone image with medium contrast. If I want still less contrast, I take the 1:9 dilution as my stock, and dilute again: 1:1, 1:2, or 1:3. A ratio of 1:3 produces low contrast on Kodalith film.

Quicksilver is part of a system of products for the darkroom called Sprint Systems of Photography, Inc., manufactured by Paul Krot. These chemicals are available through some stores, but can be ordered directly from the manufacturer: 100 Dexter St., Pawtucket, RI 02860.

For me, Sprint Chemicals have three main advantages. First they are quickly mixed from a liquid concentrate, usually diluted 1:9, and are therefore extremely conve-

nient. I can run into the darkroom when I have a spare hour to print, and set up rapidly. Secondly, the developer, stop and fix have the same tray life. That is, they exhaust simultaneously, so I do not have to set up a new tray for one chemical in the middle of a session. Thirdly, they are designed to be used in close quarters because they do not give off noxious fumes.

With Quicksilver and Kodak developers, I control the contrast of the Kodalith film through manipulating the time, concentration and temperature. Overexposing and underdeveloping reduce contrast; underexposing and overdeveloping increase contrast. I also bring down contrast by increasing dilution while cutting developing time.

Working with transparent materials is very different from using reflected materials. I'm not sure about this in scientific terms, but the contrast range in a reflected image is about one-tenth that of the transparent image. Therefore the character of the emulsion is different in quality. Kodalith has taught me one of the basic concerns of photography is not so much the nature of black-and-white, but of transparency and opacity.

There is one thing we need to be careful about in referring to these materials. In regular black-and-white photography, the negative is usually on film, and the positive on paper. Therefore it is common to call anything on film a negative, and anything on paper a positive. This is confusing when the photographer is dealing with positives and negatives on both film and paper.

After developing the Kodalith, I use Sprint Stop Bath, called Block, 1:9, and the Sprint hypo, called Record Speed Fixer, 1:4, rather than 1:9 (Figure 5). I wash one minute.



Figure 5.

Next, I use the Sprint hypo clearing agent, Archive, 1:9, for three minutes, and wash again for ten minutes. I finish with the Sprint wetting agent, End Run, 1:99, for one minute, which acts as an anti-static Photo-Flo.

I squeegee the graphic arts film and hang it up to dry on a line for about 30 minutes or so (Figure 6).



Figure 6.

The levels that go into a final box are usually the foreground, middle ground and background. Putting them together is like playing three-dimensional chess. I've got to know what the third level is going to look like when I put the first level on top. Therefore, in printing I try to balance the contrast and exposure of the layers by checking them against each other, so they don't cancel each other out when they are put together.



Figure 7.

After taking the three levels down from the line, I tape them on a piece of heavy cardboard, registering them on top of each other (Figure 7). The three sheets of film are in direct contact with each other; there is no need for any kind of protective interleaving.

Then I place a Plexiglas square on top of the Kodalith. The Plexi is pre-cut to the size of the image that will appear in the box. Using a series of light strokes rather than one heavy stroke, I cut around my template with a razor or matte knife (Figures 8 and 9).



Figure 8.



Figure 9.

This is a good point at which to discuss how the Plexiglas squares are cut. The sides of the boxes are made from Plexi $\frac{1}{4}$ " thick, and the inner panels are $\frac{1}{8}$ " thick. Usually the inner panels are all either 4" or 5" square. When all the inner panels are assembled in a pack with the sheets of Kodalith, the thickness is 2" to 3", depending on the way I have decided to space the Plexiglas.

Let us assume that a particular box has inner panels 5" square, spaced so that the box is 3" deep. Then the two rectangular panels on the sides would each be 3"x5" exactly. When I set the saw to cut lengths to be used for the top and bottom pieces, I allow for the dimension of the inside panel and the thickness of the Plexiglas used in the sides ($\frac{1}{4}$ ") minus the depth of the dado groove ($\frac{1}{8}$ "). The panels on the top and bottom would each have an overage lengthwise to allow for the $\frac{1}{4}$ " thickness of the side panels. The top and bottom panels would each be 3"x5 $\frac{1}{4}$ ".

I cut the panels to the proper dimensions with a Rockwell nine-inch tilting arbor table saw. I use a Sears veneer blade with a hollow-ground, fine-tooth blade. It's the same type of blade I would use in working with wood.

In fact, working with Plexiglas is rather similar to working with both wood and metal. I can use cabinetmaking tools, as with wood. At the same time, Plexi can be

machined, drilled and tapped like metal. But I do have to keep in mind that Plexiglas is heat sensitive, and if there is too much friction, it can melt. However, I leave the manufacturer's adhesive paper backing on the sheets while cutting, and there isn't too much of a problem. The paper backing protects against scratching of the Plexiglas.

I cut the panels out of large Plexiglas sheets that are usually about 3' or 4' long. Standard sizes vary with the manufacturer. As in woodworking, I figure out the most economical utilization of the sheet, and make my cuts



Figure 10.



Figure 11.



Figure 12.

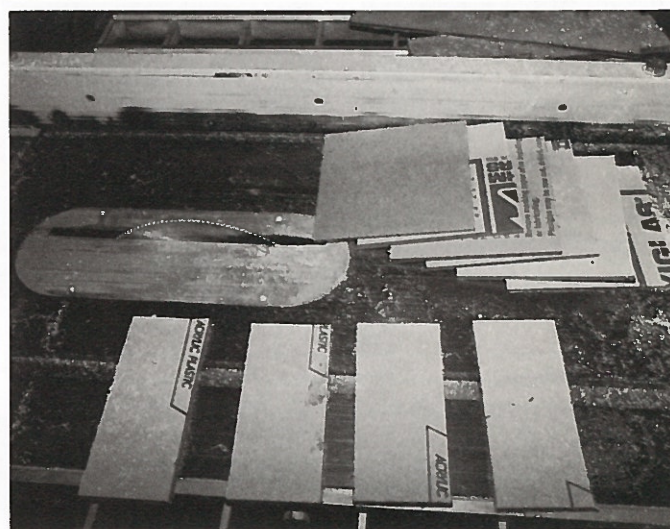


Figure 13.

accordingly (Figures 10-13).

The next step is to cut grooves on the inside of the top and bottom panels. The inner panels slide into the grooves, which are made with a dado blade, used in cabinetmaking. The height of the blade controls the depth of the groove, and the number of thin blades put together controls the width. The right combination is usually about $\frac{1}{8}$ " deep, with a width of $\frac{1}{4}$ ", if I am sliding a double inner panel into a single groove.

In a given box, there may be two to four pieces of Kodalith film, and three to eight Plexiglas inner panels. There are many possible spacings of these film-and-Plexi sandwiches. For example, one possibility might be the following: panel, film, panel, film, panel, film, panel...

all assembled in one solid unit. Another combination might be this: panel, film, panel, space; panel, film, panel, space; panel, film, panel. The inner construction of the boxes varies, depending on the spatial effect I am seeking.

After all the grooves are cut, I assemble the box with a couple of panels taped in place. I drill a hole in each corner of the top and bottom panels, into which a screw will be set (Figures 14 and 15). I use No. 4 nylon screws, $\frac{1}{2}$ " long, with a No. 40 thread size.



Figure 14.



Figure 15.

When all eight holes are drilled, I number each side of the box so that when I put it back together the holes will match. This is very important. I have to take the box apart to countersink the holes and to put in threads.

The next step is to take the clean panels and, using a camel's hair brush and air, remove the dust. I then sand-wich the film between the panels (Figure 16).



Figure 16.

At this point, I finish the edges of the side panels, either by sanding, which produces a matte finish, or by polishing with an electric buffer and a buffing compound. Usually the side panels are made of clear Plexiglas, but sometimes I use smoky gray. After the paper is removed, I clean every surface with an anti-static plastic cleaner.

Then I put everything together.

The object is now complete.

In this presentation, I have concentrated on the use of Kodalith and the actual construction of Plexiglas boxes (Figures 17 through 20). However, I would like to backtrack briefly to describe how I make the original negatives.

I use a $2\frac{1}{4}$ Hasselblad 500C Super Wide with a 38mm lens, and another 500C with an 80mm lens. My film is Plus-X rated at ASA 64.

My film developer is Kodak D-25 at 68 F for nine minutes. It is used in conjunction with a bath of one percent solution Kodalk at 68 F for three minutes. The D-25 and Kodalk Balanced Alkali function as a two-step developer. The combination gives a very long tonal range in a soft negative, which I prefer. The developer exhausts itself first in the highlight areas, but the shadow areas continue to develop, allowing greater detail in the shadow areas without increasing contrast.

I develop film two reels at a time in a steel tank. I agitate continuously the first 30 seconds, and then five seconds out of every minute. I use Sprint chemicals for stop bath, hypo, hypo eliminator, and wetting solution. Then I hang the negatives up to dry on a line.

The negatives are pretty consistent, and I proof them all at the same exposure. I can go back over a hundred sheets and give an accurate estimate on contrast and exposure. The negatives and proof sheets are keyed to each other; all are numbered and filed chronologically.

I cannot keep the proofs in a notebook because I am constantly shuffling them. I mentioned this to a class one day while discussing the value of accidents in my work.

They said, "Yeah, but your darkroom is so organized."

I replied that imagery created through accident is of no value unless I can find the negatives when I want to work with them. My method is a combination of things being organized and things being out of control.

I am considering exploring questions of scale and tonal quality, and I'm beginning to experiment with toners and developers to see what variations I can get. I intend to be involved with the boxes on a continuing basis, but I do not wish to work in one direction exclusively.

FILM	ASA RATING	DEVELOPER	SOLUTION & TIME	AGITATION
Plus-X	64	2 parts: D-25 and Kodalk Balanced Alkali	9 minutes undiluted 68 F 3 minutes 1% solution 68 F	Continuous for first 30 seconds, then 5 seconds in every minute Continuous for first 15 seconds, then 5 seconds in every 30 seconds
ENLARGER	LENS	LIGHT SOURCE	USUAL APERTURE	USUAL EXPOSURE
4 x 5 MCRX Beseler	EL-Nikkor 80mm f/5.6	No. 150	f/16	5 seconds
PAPER	DEVELOPER	SOLUTION & TIME	STOP BATH	FIXER
Kodalith Type 3 Graphic Arts Film	Sprint Quicksilver	1:9; dilute again 1:1, 1:2, or 1:3 1½ minutes	10 seconds Sprint Block Stop Bath 1:9	1 to 3 minutes Sprint Record Speed Fixer 1:4
WASH	TONING	DRYING	FLATTENING	PRESENTATION
1 minute wash 3 minutes Sprint Archive 1:9 10 minutes final wash 1 minute Sprint End Run 1:99	Currently experimenting	Air dry	None	Sandwiched between Plexiglas panels to form a box



Figure 17.



Figure 18.



Figure 19.



Figure 20.